COMPLIANCE REPORT

AS PER CONDITIONS STIPULATED IN THE ENVIRONMENTAL CLEARANCE 401/Parya/SEAC/5834-5510/2019, Dated 15th October,2020

Six Monthly Compliance Report (April, 2023 to September, 2023)

FOR

ESTABLISHMENT OF PROPOSED 100 KLD MOLASSES / CANE SYRUP BASED DISTILLERY ALONG WITH CO-GEN POWER – 7.0 MW

AT

KHASRA NO. - 108 IN VILLAGE - MALASIA, KHASRA NO.-8, 46, 47, 49, 59, 60, 61, 62, 63, 65, 70, 70, 72 IN VILLAGE: MUSALLEPUR, TEHSIL: DHANAURA DISTRICT: AMROHA, UTTAR PRADESH

SUBMITTED BY

M/S WAVE INDUSTRIES PRIVATE LIMITED Registered Address: B-5, Sector-52, Noida, District-G.B. Nagar - 244231

EC Compliance April, 2023 to September, 2023

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EC Compliance April, 2023 to September, 2023

CHAPTER No. 01 INTRODUCTION AND PROJECT DESCRIPTION

Six monthly environmental compliance/status report is submitted for Environmental Clearance for Establishment of Proposed 100 KLD Molasses / Cane Syrup Based Distillery along with Co-gen power - 7.0 MW at Khasra No.- 108 in Village: Malasia, Khasra No.-8, 46, 47, 49, 59, 60, 61, 62, 63, 65, 70, 70, 72 in Village: Musallepur, Tehsil: Dhanaura, District: Amroha, Uttar Pradesh by **M/s Wave Industries Private Limited** for April, 2023 to September, 2023. Prior Environment Clearance was obtained from State Level Environment Impact Assessment Authority, Uttar Pradesh wide Ref. no.: **401/Parya/SEAC/5834-5510/2019**, **dated 15th October**, **2020**. Consent to Operate for Air & Water has already been obtained for the project Vide Ref No. - **172038/UPPCB/Bijnore(UPPCBRO)/CTO/both/AMROHA/2022** dated **03.01.2023** for validity upto 31/12/2023. Copy of CTO is attached here as **Annexure-1**.

No objection certificate for "No increase in pollution load" of Distillery capacity 140 KLD on use of alternative feed stock (B heavy Molasses/Sugar Syrup) has been granted through UPPCB Letter no - **33/UPHOC7/EIA/JYOTIBA PHULE NAGAR/2021 dated 01/09/2021**. Copy of NOC is attached here as **Annexure-2**

Specific and general conditions stipulated in Environment Clearance have been complied during construction phases.

Environmental mitigation measures described in Environmental Management Plan are being implemented construction phase. M/s Wave Industries Private Limited Unit Distillery. Management team is fully conscious about Environmental Management and enhancing green belt development in project surrounding area.

Six monthly compliance/status reports for April, 2023 to September, 2023 for conditions stipulated in the Environmental Clearance letter issued by SEIAA U.P. are enclosed as Annexure-3. Photographs view of implemented mitigation measures are also attached for the ready reference as photo documentation.

EC Compliance April, 2023 to September, 2023

CHAPTER No. 02 COMPLIANCE OF STIPULATED CONDITIONS OF ENVIRONMENTAL CLEARANCE

Name of the Project: Establishment of Proposed 100 KLD Molasses / Cane Syrup Based Distillery along with Co-gen power - 7.0 MW at Khasra No.- 108 in Village: Malasia, Khasra No.- 8, 46, 47, 49, 59, 60, 61, 62, 63, 65, 70, 70,7 2 in Village: Musallepur, Tehsil: Dhanaura, District: Amroha, Uttar Pradesh by **M/s Wave Industries Private Limited (Unit Distillery).**

Clearance Letter No: 401/Parya/SEAC/5834-5510/2019, dated 15th October, 2020.

Period of Compliance Report: (April, 2023 to September, 2023)

Sr. No.	Statutory	Compliances
1.	45 days monitoring report of the area for air quality,	Baseline monitoring already
	water quality, Noise level. Besides flora & fauna should	submitted as suggested. Current
	be examined twice a week and be submitted within 60	Monitoring reports are attached as
	days for a record.	Annexure-4.
2.	The project proponent shall obtain forest clearance	Not Applicable, as there is no
	under the of Forest (Conservation) Act, 1986, in case of	forest land involved in this
	the diversion of forest of forest land for non- forest	project.
	purpose involved in the project.	
3.	The project proponent shall obtain clearance from the	Not Applicable, there is no wild
	National Board for Wildlife, if applicable.	life sanctuary within 10 km
		radius.
4.	The project proponent shall prepare a site-specific	No schedule-I species is found in
	conservation plan and wildlife management plan and	study area, hence this condition is
	approved by the chief wildlife warden. The	not applicable.
	recommendations of the approved Site-Specific	
	Conservation Plan/Wildlife Management Plan shall be	
	implemented in consultation with the State Forest	
	Department. The implementation report shall be	
	furnished along with six-monthly compliance report. (In	
	case of the presence of schedule -l species in the study	
	area).	

	he Consent to Operate (Air &
Operate under the provision of Air (Prevention & W	
operate and the provision of the (recention of	Vater) has been Obtained from
Control of Pollution) Act, 1981 and the Water UI	PPCB. Copy of CTO is attached
(Prevention & Control of Pollution) Act, 1974 from the as	s Annexure-1.
concerned State pollution Control Board/Committee.	
6. The project proponent shall obtain authorization under Th	he point is noted and complied.
the Hazardous and other Waste Management Rules,	
2016 as amended from time to time.	
7. The company shall strictly comply with the rules and Th	he point is noted and complied.
guidelines under Manufacture, Storage and Import of	
Hazardous Chemicals (MSIHC) Rules, 1989 as	
amended time to time. All transportation of Hazardous	
Chemicals shall be as per the Motor Vehicle Act	
(MVA), 1989.	
II. Air quality monitoring and preservation:	
1. The project proponent shall install 24x7 continuous Th	he project is in operation phase;
emission monitoring system at process stacks to monitor Or	nline-monitoring system for
stack emission with respect to standards prescribed in SP	PM and Discharge (Web
Environment (Protection) Rules 1986 SPCB and CPCB Ca	amera) has been installed and
online servers and calibrate these systems from time to con-	onnected to CPCB Server.
time according to equipment supplier specification	
through labs recognized under Environment (Protection)	
Act, 1986 or NABL accredited laboratories.	
2. The project proponent shall install system carryout to Me	Ionitoring reports are attached as
Ambient Air Quality monitoring for common/criterion A	nnexure-4.
parameter relevant to the main pollutant released (e.g.	
PM10 and PM2.5 in reference to PM emission, and SO2	
and NO _X in reference to SO ₂ and NO _X emission) within	
and outside the plant area at least at four location (one	
within and three outside the plant area at an angle of	
120° each), covering upwind and downwind direct ions.	
(case to case basis small plants; Manual; Large Plants:	
Continuous)	
3. The project proponent shall submit monthly summary Th	he project is in operation phase,

oon oj		
	report of continuous stack emission and air quality	and we are complying with this
	monitoring and results of manual stack monitoring of air	condition. Stack emission
	quality/fugitive emission to Regional Office of	monitoring quality has been done;
	MoEF&CC, Zonal office of CPCB and Regional Office	Monitoring reports are attached as
	of SPCB along with Six-monthly monitoring	Annexure-4.
4.	Appropriate Air Pollution Control (APC) system shall	Bag filter has been installed as Air
	be provided for all the dust generating points including	Pollution Control Equipment. To
	fugitive dust from all vulnerable source, so as to comply	control fugitive dust emission,
	prescribed stack emission and fugitive emission	water sprinkling has been done.
	standards.	
5.	The National Ambient Air Quality Emission Standard	Ambient air monitoring has been
	issued by the Ministry vide G.S.R No. 826 (E) dated	done as per the guidelines.
	16 th November, 2019 shall be compiled with.	Ambient air quality level found
		within NAAQS 2009.
		Monitoring report attached as
		Annexure-4.
6.	Sulphur content should not exceed 0.5% in the coal for	Online Bagasse / Biomass is
	use in coal-fired boilers to control particulate emission	being utilized as fuel for Slop
	within permissible limits (as applicable). The gaseous	fired boiler capacity 45 TPH.
	emission shall be dispersed through stack of adequate	
	height as per CPCB/SPCB guidelines.	
7.	The D.G set shall be equipped with suitable pollution	DG set has been installed and
	control device and adequate stack height so that the	acoustic enclosure already
	emissions are in conformity with the extant regulation	provided for reducing the noise
	and the guidelines in this regard.	pollution.
8.	Storage of raw materials, coal etc shall be either stored	Complied
	in soils or in covered areas to prevent dust pollution and	
	other fugitive emissions.	
III. V	Vater quality monitoring and preservation	
1.	For online continuous monitoring of effluent, the unit	Unit has installed OCEMS for the
	shall install web camera with night vision capability and	effluent & web camera at drain
	shall install web camera with night vision capability and flow meters in the channel/drain carrying effluent within	effluent & web camera at drain carrying the effluent as per CPCB

	online servers.	
2.	Zero Liquid Discharge shall be ensured and no	In no any case treated water is
	waste/treated water shall be discharged outside the	discharge outside the premises as
	premises (applicable in case of the projects achieving	unit is based on Zero Liquid
	the ZLD).	Discharge.
		Spent wash generated is being
		concentrated in MEE then
		concentrate from MEE is being
		used as fuel in Incineration boiler.
3.	Process effluent/ any wastewater shall not be allowed to	Unit is based on Zero Liquid
	mix with storm water. The storm water from the	Discharge strategy, no effluent is
	premises shall be collected and discharged through a	discharge outside premises.
	separate conveyance system.	
4.	The effluent discharge shall conform to the standards	Unit is based on Zero Liquid
	prescribed under the Environment (Protection) Rules,	Discharge strategy, no effluent is
	1986, or as specified by the State pollution Control	discharge outside premises.
	Board while granting Consent under the Air/Water Act,	Complied
	whichever is more stringent.	
5.	Total fresh water requirement shall not exceed the	Treated Water from Sugar Unit is
	proposed quantity or as specified by the Committee.	being utilise as makeup water in
	Prior permission shall be obtained from the concerned	Distillery unit. No ground water
	regulatory authority/CGWA In this regard.	abstracted for Distillery operation.
6.	Industrial/trade effluent shall be segregated into High	Other effluent generated is being
	COD/TDS and Low COD/TDS effluent streams. High	treated in condensate polishing
	TDS/COD shall be passed through stripper followed by	unit.
	MEE and ATFD (agitated thin film drier). Low TDS	
	effluent stream shall be treated in ETP and then passed	
	through RO system.	
7.	The company shall harvest rainwater from the roof tops	Condition noted and complied.
	of the buildings and storm water drains to recharge the	
	ground water and utilize the same for different industrial	
	operation within the plant.	
IV. N	oise monitoring and prevention	
1.	Acoustic enclosure shall be provided to DG set for	Acoustic enclosure has been
	•	

	controlling the noise pollution.	provided with DG set.	
2.	The overall noise levels in and around the plant area	Noise level has been monitored	
	shall be kept well within the standards by providing	within premises. Monitoring	
	noise control measures including acoustic hoods,	reports are attached as Annexure-	
	silencers, enclosures etc. on all sources of noise	4.	
	generation.		
3.	The ambient noise levels should conform to the	Point is noted and Monitoring	
	standards prescribed under E(P) A Rules,1986 viz. 75	reports are attached as	
	dB(A) during day time and 70 dB(A) during night time.	Annexure-4.	
V. En	ergy Conservation measures		
1.	The energy sources for lighting purposes shall	Point is noted and complied.	
	preferably be LED based.		
VI. W	Vaste management		
1.	Hazardous chemicals shall be stored in tank, tank farms,	Point is noted and being	
	drums, carboys etc. Flame arresters shall be provided on	complied.	
	tank farm and the solvent transfer through pumps.		
2.	Process organic residue and spent carbon, if any, shall	Point is noted and complied.	
	be sent to cement industries. ETP sludge, process		
	inorganic & evaporation salt shall be disposed off to the		
	TSDF.		
3.	The company shall undertake waste minimization	Point is noted and same is being	
	measures as below.	complied.	
	a. Metering and control of quantities of active		
	ingredients to minimize waste.		
	b. Reuse of by products from the process as raw		
	materials or as raw material substitutes in other		
	processes.		
	c. Use of automated filling to minimize spillage.		
	d. Use of close feed system into batch reactors.		
	e. Venting equipment through vapour recovery		
	system.		
	f. Use of high-pressure hoses for equipment clearing		
	to reduce wastewater generation		
VII. (VII. Green Belt		

	NI/S wave industries Private Limited	
1.	Green belt shall be developed in an area equal to 33% of	Currently project is under
	the plant area with a native tree species in accordance	operation phase and unit has
	with CPCB guidelines. The greenbelt shall inter alia	developed green belt as per the
	cover the entire periphery of the plant.	norms. (Approx. 33% of total area
		i.e. 6.0 ha).
VIII.	Safety, Public hearing and Human health issues	
1.	Emergency preparedness plan based on the Hazard	Condition noted and complied.
	Identification and Risk Assessment (HIRA) and Disaster	
	Management Plan shall be implemented.	
2.	The PP shall provide Personal Protection Equipment	Personal Protection Equipment
	(PPE) as per the norms of Factory Act.	(PPE) has been provided to
		worker.
3.	Training shall be imparted to all employees on safety	The employees/operators has
	and health aspects of chemicals handling Pre-	provided with adequate Personal
	employment and routine periodical medical	Protection Equipment (PPE) as
	examinations for all employees shall be undertaken on	per the norms of factory Act.
	regular basis. Training to all employees on handling of	
	chemicals shall be imparted.	
4.	Provision shall be made for the housing of construction	Complied.
	labour within the site with all necessary infrastructure	
	and facilities such as fuel for cooking mobile toilets,	
	mobile STP, safe drinking water, medical health care,	
	crèche etc. The housing may be in the form of	
	temporary structures to be removed after the completion	
	of the project.	
5.	Occupational health surveillance of the workers shall be	Regular Occupation health
	done on a regular basis and records maintained as per	surveillance of worker has been
	the Factories Act.	planned and is being done
		accordingly.
6.	There shall be adequate space inside the plant premises	Occupational health surveillance
	earmarked for parking of vehicles for raw materials and	of the workers is being done on a
	finished products, and no parking to be allowed outside	regular basis and records is
	on public places.	maintaining as per the Factories

		Act.
X. C	Corporate Environment Responsibility	
1.	The project proponent shall comply with the provision	Point is noted and complied.
	contained in this Ministry OM vide F.No. 22-65/2017 -	
	IA.III dated 1 st may 2018, as applicable, regarding	
	Corporate Environment Responsibility.	
2.	The company shall have a well laid down environmental	Point is noted and company'
	policy duly approve by the Board of Directors. The	environmental policy is we
	environmental policy should prescribe for standard	documented and made availabl
	operating procedures to have proper checks and	to all stakeholders.
	balances and to bring into focus any infringements	
	/deviation / violation of the environment/forest/wildlife	
	norms/conditions. The company shall have defined	
	system of reporting infringements/deviation/violation of	
	the environment/forest/wildlife norms I conditions and /	
	or shareholders/stake holder. The copy of the board	
	resolution in this regard shall be submitted to the MoEF	
	& CC as a part of six – monthly report.	
3.	A separate Environmental cell both at the project and	Point is noted and complied.
	company head quarter level, with qualified personnel	
	shall be set up under the control of senior Executive,	
	who will directly to the head of the organization.	
4.	Action plan for implementing EMP and environment	Point is noted and complied.
	conditions along with responsibility matrix of the	
	company shall be prepared and shall be duly approved	
	by competent authority. The year wise funds earmarked	
	for environment protection measures shall be kept in	
	separate account and not to be diverted for any other	
	purpose. Year's wise progress of implementation of	
	action plan shall be reported to the Ministry/Regional	
	Office along with the six-monthly Compliance Report.	
5.	Self-environmental audit shall be conducted annually.	Point is noted and complied.
	Every three years third party environmental audit shall	
	be carried out.	

X	. Miscellaneous	
1	If the proposed project is situated in notified area of	Distillery makeup water
	ground water extraction, where creation of new wells	requirement is being full filled by
	for ground water extraction is not allowed, requirement	stored treated water of Sugar unit.
	of fresh water shall be met from alternate water source	
	other than ground water or legally valid source and	
	permission from the competent authority shall be	
	obtained to use it.	
2	The project shall ensure that the distillery shall be on	Spent wash is being concentrated
	ZLD basis with incineration of spent wash in slop	in MEE and concentrated Slop
	boiler. As proposed treated waste water should be	will be used as fuel along with
	completely recycled/ refused and ZLD should be	bagasse in 45 TPH boiler.
	achieved. Under no circumstances treated waste water	
	and effluent shall be discharged to any drain/sewer	
	line/inland surface water/Nala etc.	
3	Directions/suggestion given during public hearing and	Complied.
	commitment made by the project proponent should be	
	strictly compiled.	
4	The project proponent shall make public the	Public notice has been published.
	environmental clearance granted for their project along	
	with the environmental condition and safeguards at their	
	cost by prominently advertising it at least in two local	
	newspapers of the District or State, of which one shall	
	be in the vernacular language within seven days and in	
	addition this shall also be displayed in the project	
	proponent's website permanently.	
5	The copies of the environmental clearance shall be	Complied. Copy of
	submitted by the project proponent to the Heads of local	Environmental Clearance is
	bodies, Panchayats and Municipal Bodies in addition to	attached as Annexure-3.
	the relevant offices of the Government who in turn has	
	to display the same for 30 days from the date of receipt.	
6	The project proponent shall upload the status of the	Point is noted and complied.
	compliance of the stipulated environment clearance	
	condition, including results of monitored data and in	
	-	

	conditions, including results of monitored data on their	
	website and update the same on half-yearly basis.	
7	The project proponent shall monitor the criteria	Monitoring reports are attached as
	pollutants level namely; PM10, PM2.5, SO2, NOx	Annexure-4.
	(ambient levels as well as stack emissions) or critical	
	sectoral parameters, indicated for the projects and	
	display the same at a convenient location for disclosure	
	to the public and put on the website of the company.	
8	The project proponent shall submit six-monthly reports	Point is noted and complied.
	on the status of the compliance of the stipulated	
	environmental conditions on the website of the Ministry	
	of Environment, Forest and Climate Change at	
	environmental clearance portal.	
9	The project proponent shall submit the environmental	Point is noted and same has been
	statement for each financial year in form-V to the	complied after commissioning of
	concerned State Pollution Control Board as prescribed	plant.
	under the Environment (Protection) Rules, 1986, as	
	amended subsequently and put on the website of the	
	company.	
10	The project proponent shall inform the Regional Office	Point is noted.
	as well as the Ministry, the date of development work	
	and start of production operation by the project.	
11	The project authorities must strictly adhere to the	Point is noted and same will be
	stipulation made by the State Pollution Control Board	complied.
	and the State Government.	
12	The project proponent shall abide by all the commitment	Point is noted.
	and recommendation made in the EIA/EMP report,	
	commitment made during Public Hearing and also that	
	during their presentation to the Expert Appraisal	
	Committee.	
13	No further expansion or modification in the plant shall	Point is noted
	be carried out without prior approval of the Ministry of	
	Environment, Forest and Climate Change (MoEF&CC).	
14	Concealing factual data or submission of false	Point is noted and complied.
L		

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	fabricated data may result in revocation of this			
	environmental clearance and attract action under the			
	provision of Environment (Protection) Act, 1986.			
15	The Ministry may revoke or suspend the clearance, if	Point is noted		
	implementation of any of the above conditions is not			
	satisfactory.			
16	The Ministry reverse the right to stipulate additional	Point is noted		
	conditions if found necessary.			
17	The company in a time bound manner shall implement	Point is noted		
	these conditions.			
18	The Regional Office of this Ministry shall monitor	Point is noted		
	compliance of the stipulated conditions. the project			
	authorities should extend full corporation to the officer			
	(s) of the Regional office by furnishing the requisite			
	data/ information/ monitoring reports.			
19	The above conditions shall be enforced, inter-alia under	Point is noted.		
	the provisions of the Water (Prevention & Control of			
	Pollution) Act, 1974, the Air (Prevention & Control of			
	Pollution) Act 1981, the Environment (Protection) Act,			
	1986, Hazardous and Other Wastes (Management and			
	Transboundary Movement) Rules, 2016 and the public			
	Liability Insurance Act, 1991 along with their			
	amendments and Rules and any other orders passed by			
	the Hon'ble Supreme Court of India/High Courts and			
	any other Court of Law relating to the subject matter.			
20	Any appeal against this EC shall lie with National Green	Point is noted		
	Tribunal, if preferred, with a period of 30 days as			
	prescribed under section 16 of the National Green			
	Tribunal Act, 2010.			

CHAPTER No. 03 DETAILS OF ENVIRONMENTAL MONITORING

3.1 AMBIENT AIR QUALITY MONITORING

3.1.1 Ambient air Quality Monitoring Stations

Ambient air quality monitoring has been carried out at 04 locations to assess the ambient air quality. Three stations have been selected at 120° from the center. This will enable to have analytical understanding about air quality and the changes in the air environment in the study area with respect to the condition prevailing. The locations of the ambient air quality monitoring stations are given in **Table-3.1**: -

	Details of Amblent An Quanty Monitoring Stations						
Sr. No	Location Code	Location Name/Description	Environmental Setting of surrounding				
1.	AAQ - 01	Near Main Gate	Industrial				
2.	AAQ - 02	At Admin Building	Industrial				
3.	AAQ - 03	Village: Kasampur Shumali	Residential				
4.	AAQ - 04	Village: Isapur Shumali	Residential				

 Table-3.1:

 Details of Ambient Air Quality Monitoring Stations

AAQ - 01: Near Main Gate

The sampler was placed Near Main Gate and was free from any obstructions. Surroundings of the sampling site represent industrial environmental setting.

AAQ - 02: At Admin Building

The sampler was placed near the admin office and was free from any obstructions. Surroundings of the sampling site represent industrial environmental setting.

AAQ - 03: Village: Kasampur Shumali

The sampler was placed near the village: kasampur shumali and was free from any obstructions. Surroundings of the sampling site represent residential environmental setting.

AAQ - 04: Village: Isapur Shumali

The sampler was placed near the village: isapur shumali and was free from any obstructions. Surroundings of the sampling site represent residential environmental setting.

3.1.2 Ambient Air Quality Monitoring Methodology

Monitoring was conducted in respect of the following parameters:

- Respirable Suspended Particulate Matter (PM₁₀)
- Fine Particulate Matter (PM_{2.5})
- Sulphur Dioxide (SO₂)
- Oxides of Nitrogen (NOx)

The duration of sampling of PM_{10} , $PM_{2.5}$, SO_2 and NO_X was 24 hourly continuous sampling per day duration monitoring. The monitoring was conducted for one day at the location. This is to allow a comparison with the National Ambient Air Quality Standards.

The air samples were analyzed as per standard methods specified by Central Pollution Control Board (CPCB) and IS: 5182. The techniques used for ambient air quality monitoring and minimum detectable levels are given in **Table-3.2**. Fine Particulate Sampler instruments have been used for monitoring Particulate Matter 2.5 (PM_{2.5} i.e. <2.5 microns), and Respirable Dust Sampler with gaseous sampling attachment was used for sampling Respirable fraction (<10 microns), gaseous pollutants like SO₂, and NOx.

 Table-3.2:

 Techniques used for Ambient Air Quality Monitoring

Sr. No	Parameter	Technique	Range of testing /limit of detection
1.	Respirable Suspended Particulate Matter (PM ₁₀)	Respirable Dust Sampler, with cyclone separator, Gravimetric Method	5.0 - 1200
2.	Fine Particulate Matter (PM _{2.5})	Fine Particulate Sampler, Gravimetric Method	2.0 - 500
3.	Sulphur dioxide	Modified West and Gaeke	5.0 - 1050
4.	Oxides of Nitrogen	Jacob & Hochheiser	6.0 - 750

3.1.3 Ambient Air Quality Monitoring Results Near Main Gate

The detailed on-site monitoring results of PM₁₀, PM_{2.5}, SO₂ and NO_X are presented in Table-3.3.

		Table-3	.3:				
Ambien	t Air Quality	Monitorin	g Result	s Near M	1ain Ga	te	
					D	0	

Sr. No	Particulars	Protocol	Unit	Result	Range of testing /limit of detection	Standard as per NAAQS; dated 18/11/ 2009
1	Particulate matters size	IS: 5182 (Part-23): 2006	μg/m ³	83.2	5.0 - 1200	For
1	less than 10 µm (PM ₁₀)	Reaffirmed: 2022	μg/m	03.2	5.0 - 1200	24 hour =100
2	Particulate matters size	IS: 5182 (Part-24): 2019	µg/m ³	52.99	2.0 - 500	For
2	less than 2.5 µm (PM _{2.5})	15. 5162 (Falt-24). 2019	μg/m	32.99	2.0 - 300	24 hour =60
3	Sulphur Diavidas (SO)	IS: 5182 (Part-2): 2001	µg/m ³	14.62	52 5.0 - 1050	For
5	Sulphur Dioxides (SO ₂)	Reaffirmed: 2022	µg/m	14.02		24 hour =80
1	Ovidog of nitrogon (NO)	IS: 5182 (Part-6): 2006	µg/m ³	21.17	6.0 - 750	For
4	Oxides of nitrogen (NO _x)	Reaffirmed: 2022	μg/m	111 21.17	0.0 - 750	24 hour =80

3.1.4 Ambient Air Quality Monitoring Results at Admin Building

The detailed on-site monitoring results of PM₁₀, PM_{2.5}, SO₂ and NO_X are presented in Table-3.4.

EC Compliance April, 2023 to September, 2023

Amblent An Quanty Monitoring Results at Admin Dunuing						
Sr. No			Range of testing /limit of detection	Standard as per NAAQS; dated 18/11/ 2009		
1	Particulate matters size	IS: 5182 (Part-23): 2006	μg/m ³	80.2	5.0 - 1200	For
1	less than 10 µm (PM ₁₀)	Reaffirmed: 2022	µg/m	80.2	3.0 - 1200	24 hour =100
2	Particulate matters size	IS: 5182 (Part-24): 2019	$\mu g/m^3$	49.40	2.0 - 500	For
2	less than 2.5 µm (PM _{2.5})	13. 5162 (Falt-24). 2019	μg/m	47.40	2.0 - 300	24 hour =60
3	Sulphur Dioxides (SO ₂)	IS: 5182 (Part-2): 2001	μg/m ³	13.69	5.0 - 1050	For
5	Sulphur Dioxides (SO ₂)	Reaffirmed: 2022	μg/m	13.07	5.0 - 1050	24 hour =80
1	Oxides of nitrogen (NO _X)	IS: 5182 (Part-6): 2006	μg/m ³	20.17	6.0 - 750	For
4	Oxides of nitrogen (NO _X)	Reaffirmed: 2022	μg/III	20.17	0.0 - 730	24 hour =80

 Table-3.4:

 Ambient Air Ouality Monitoring Results at Admin Building

3.1.5 Ambient Air Quality Monitoring Results at Village: Kasampur Shumali

The detailed on-site monitoring results of PM₁₀, PM_{2.5}, SO₂ and NO_X are presented in Table-3.4.

Sr. No	Particulars	Protocol	Unit	Result	Range of testing /limit of detection	Standard as per NAAQS; dated 18/11/ 2009
1	Particulate matters size	IS: 5182 (Part-23): 2006	μg/m ³	78.6	5.0 - 1200	For
1	less than 10 µm (PM ₁₀)	Reaffirmed: 2022	µg/m	/0.0	5.0 - 1200	24 hour =100
2	Particulate matters size	IS: 5182 (Part-24): 2019	µg/m ³	16 52	2.0 - 500	For
2	less than 2.5 µm (PM _{2.5})	15. 5162 (Falt-24). 2019	μg/m	46.52	2.0 - 300	24 hour =60
3	Sulphur Dioxides (SO ₂)	IS: 5182 (Part-2): 2001	µg/m ³	12.73	5.0 - 1050	For
5	Sulphur Dioxides (SO2)	Reaffirmed: 2022	μg/m	12.73	5.0 - 1050	24 hour =80
4	Ovides of nitragen (NO)	IS: 5182 (Part-6): 2006	$\mu g/m^3$ 1	10.00	6.0 - 750	For
4	Oxides of nitrogen (NO _X)	Reaffirmed: 2022		18.88	0.0 - 750	24 hour =80

Table-3.5:Ambient Air Quality Monitoring Results at Village: Kasampur Shumali

3.1.6 Ambient Air Quality Monitoring Results at Village: Isapur Shumali

The detailed on-site monitoring results of PM₁₀, PM_{2.5}, SO₂ and NO_X are presented in Table-3.4.

Table-3.6:

Ambient Air Quality Monitoring Results at Village: Isapur Shumali

Sr. No	Particulars	Protocol	Unit	Result	Range of testing /limit of detection	Standard as per NAAQS; dated 18/11/ 2009
1	Particulate matters size	IS: 5182 (Part-23): 2006	μg/m ³	77.6	5.0 - 1200	For
1	less than 10 µm (PM ₁₀)	Reaffirmed: 2022	µg/m	//.0	5.0 - 1200	24 hour =100
2	Particulate matters size	IS: 5182 (Part-24): 2019	μg/m ³	47.32	2.0 - 500	For
2	less than 2.5 µm (PM _{2.5})	15. 5162 (Fall-24). 2019	µg/m	47.32	2.0 - 300	24 hour =60
2	Sulahur Diaridag (SO)	IS: 5182 (Part-2): 2001		12.00	12.99 5.0 - 1050	For
3	Sulphur Dioxides (SO ₂)	Reaffirmed: 2022	μg/m ²	μg/m ³ 12.99		24 hour =80
1	Oxides of nitrogen (NO _X)	IS: 5182 (Part-6): 2006		17.43	6.0 - 750	For
4		Reaffirmed: 2022	µg/m ³	17.43	0.0 - 730	24 hour =80

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3.1.7 Discussion on Ambient Air Quality in the Study Area

The value of PM_{10} at Ambient Air Monitoring Station No: 1, 2, 3 & 4 are 83.2, $\mu g/m^3 80.2$, $\mu g/m^3 78.6 \ \mu g/m^3 \& 83.4 \ \mu g/m^3$ which were within permissible limit of 100 $\mu g/m^3$ and $PM_{2.5}$ levels are 52.99 $\mu g/m^3$ at Near Main Gate, 49.40 $\mu g/m^3$ at Admin Building, 46.52 $\mu g/m^3$ at Village: Kasampur Shumali and 47.32 $\mu g/m^3$ at Village: Isapur Shumali, were also observed within permissible limit of 60 $\mu g/m^3$ (for residential, rural and other areas as stipulated in the National Ambient Air Quality Standards). SO₂ ranges between 12.73 $\mu g/m^3$ to 14.62 $\mu g/m^3$ and NO_X ranges between 17.43 $\mu g/m^3$ to 21.17 $\mu g/m^3$ was also observed within the corresponding stipulated limits (Limit for SO₂ and NO_X; 80 $\mu g/m^3$) at all the monitoring locations. Station wise variation of ambient air quality parameters has been graphically shown in **Figure-3.1** to **Figure-3.4**.

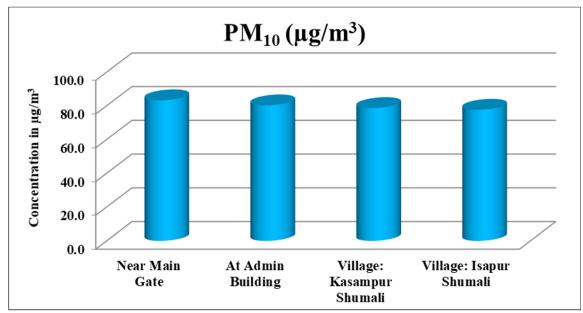


Figure 3.1: Graphs Showing PM₁₀ Concentration at all sites

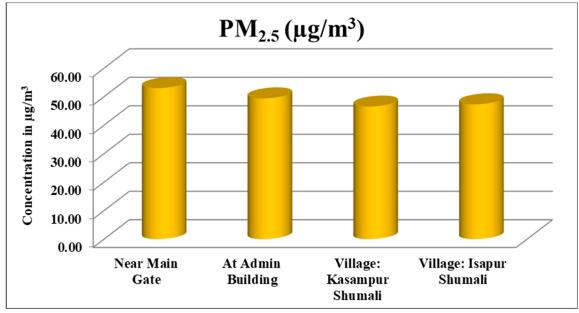


Figure 3.2: Graphs Showing PM_{2.5} Concentration at all sites

EC Compliance April, 2023 to September, 2023

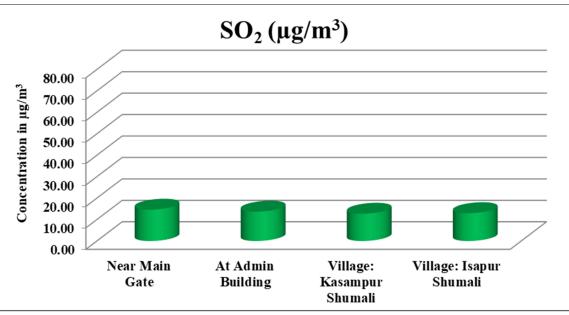


Figure 3.3: Graphs Showing SO₂ Concentration at all sites

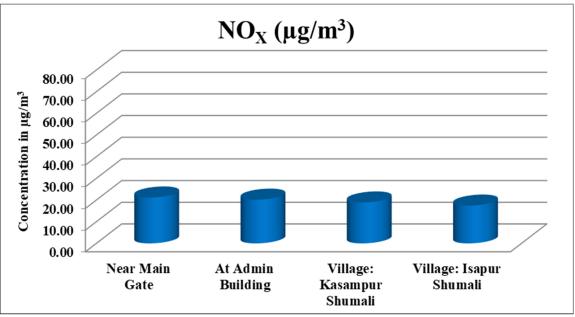


Figure 3.4: Graphs Showing NOx Concentration at all sites

3.2 STACK EMISSION MONITORING

Stack Emission monitoring was carried out by EPA approved Laboratory on date 18.09.2023 for the installed 45.0 TPH slop fired boiler (attached with Bag Filters as air pollution control device with a stack height of 85.0 meter).

3.2.1 Stack Emission Monitoring Methodology

Monitoring was conducted in respect of the following parameters:

• Particulate Matter (PM)

The Method used for Stack Emission monitoring and range of testing with CPCB standard are given in Table-3.7

EC Compliance April, 2023 to September, 2023

Sr. No.	Parameter	Unit	Protocol	Result	Range of Testing/ Limit of Detection	Standard (as per CPCB)
1	Particulate Matter	mg/Nm ³	IS: 11255 (Part-1): 1985 Reaffirmed: 2019	44.12	2.0 - 1000	150

Table-3.7: Details of Stack Emission Monitoring Results

3.3 **AMBIENT NOISE MONITORING**

3.3.1 **Ambient Noise Monitoring Locations**

The main objective of noise monitoring in the study area is to assess the present ambient noise levels Near Construction Site due to various construction activities and increased vehicular movement. A preliminary reconnaissance survey has been undertaken to identify the major noise generating sources in the area. Ambient noise onitoring was conducted at 01 location as given in Table-3.8.

Sr. No	Location Code	Location name and description	Present Land use
1.	NQ - 01	Near Project Site	Industrial

Table-3.8: Details of Ambient Noise Monitoring Stations

3.3.2 Methodology of Noise Monitoring

Noise levels were measured using sound level meter. Noise level monitoring was carried out continuously for 24-hours with one-hour interval starting at 06:00 hrs to 06:00 hrs next day. The noise levels were monitored on working days only. During each hour Leq were directly computed by the instrument based on the sound pressure levels. Monitoring was carried out at 'A' response.

3.3.3 **Ambient Noise Monitoring Results**

The location wise ambient noise monitoring results is summarized in **Table-3.9**. The noise levels are graphically presented in Figure-3.5.

Ambient Noise Monitoring Results						
Ambient Noise Level						
Sr. No.	Parameter	Unit	Results Day Time (06:00 AM - 10:00 PM)	Results Night Time (10:00 PM - 06:00 AM)		
1	Equivalent sound level	dB(A)	61.23	48.52		

Table-3.9:

EC Compliance April, 2023 to September, 2023

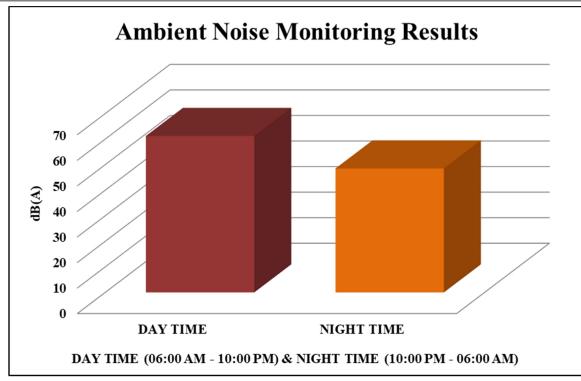


Figure-3.5: Day and Night Time noise Level Near Project Site

Noise Standards as per CPCB Schedule rule 3(1) and 4(1)						
Area	Category of Area/	Limits in dB(A) Leq				
Code	Zone	Day Time	Night Time			
А	Industrial Area	75	70			
В	Commercial Area	65	55			
С	Residential Area	55	45			
D	Silence Zone	50	40			

Silence Zone : No Silence zone is present within or arround the industry.

3.3.4 Discussion on Ambient Noise Levels in the Study Area

Day Time Noise Levels (Lday):

The day time noise level at monitoring station was found 61.23 dB(A), which is within limits prescribed for industrial area i.e. 75 db (A).

Night Time Noise Levels (Lnight):

The night time noise level at monitoring station was found 48.52 dB(A), which is within limit prescribed for industrial area i.e. 70 dB (A).

3.4 GROUND WATER QUALITY MONITORING

3.4.1 Ground water Quality Monitoring Locations

Keeping in view the importance of ground water, sample of ground water was collected from the project site for the assessment of impacts of the project on the groundwater quality.

Water sample was collected from the project site. The sample was analyzed for various parameters to compare with the standards for Ground water as per IS: 10500 for Groundwater sources. The details of water sampling locations are given in **Table-3.10**.

EC Compliance April, 2023 to September, 2023

	Details of Water Quality Monitoring Station						
Sr. No	Location Code	Location name and description	Date of Monitoring				
1.	GW - 01	Borewell (Near Project Site)	14 th April, 2023				
2.	GW - 01	Borewell (Near Project Site)	18 th May, 2023				
3.	GW - 01	Borewell (Near Project Site)	16 th June, 2023				
4.	GW - 01	Borewell (Near Project Site)	13 th July, 2023				
5.	GW - 01	Borewell (Near Project Site)	17 th August, 2023				
6.	GW - 01	Borewell (Near Project Site)	20 th September, 2023				

			Table-	3.10:			
De	tails o	of Wate	er Qualit	y Mo	onito	oring S	station

3.4.2 Methodology of ground water Quality Monitoring

Sampling of ground water was carried out on 14.04.2023, 18.05.2023, 16.06.2023, 13.07.2023, 17.08.2023 and 20.09.2023. Samples were collected as grab sample and sampling forms are filled in as per the sampling plan. The preservative sample were properly added to preserve as per standard operating procedures (SOP) and stored immediately in ice boxes, which were ensured for appropriate temperatures. Sample for chemical analysis was collected in polyethylene carboys. Sample collected for metal content were acidified to <2 pH with 1 ml HNO₃. A sample for bacteriological analysis was collected in sterilized glass bottles.

Soon after the completion of sampling, chain of custody sheets for the samples are filled in and then they were transported by road to Environmental & Technical Research Centre, Lucknow for further analysis. Proper care was taken during packing and transportation of samples. All the samples reached the central laboratory within the holding times for different parameters. After ensuring the same the samples were forwarded immediately for analysis.

The samples were analyzed as per the standard procedures specified in 'Standard Methods for the Examination of Water and Wastewater' published by American Public Health Association (APHA) and CPCB. The analytical techniques and the test methods adopted for testing of ground water are given in **Table-3.11 to Table-3.16**.

3.4.3 Ground water Quality Monitoring Results

The detailed Ground water quality monitoring results are presented in Table-3.10 to Table-3.16.

	<i>c</i> 1		Table-3.11:				
Sr.	Ground wa	ater Qua Unit	ality Results at Borewell (N Protocol/Test Method	ear Projec Result	t Site) (Apri Range of testing /limit	Indian	Standard 0: 2012
No	i est i arameter	Unit	Trotocol/Test Mictilou	Kesuit	of detection	Desirable	Permissible
Physico-chemical Parameters							
1	Colour	Hazen	IS: 3025 (Part-4): 1983 Reaffirmed: 2017	<5.0	5 - 30	5	15
2	Odour	-	- IS: 3025 (Part-5): 1983 Reaffirmed: 2017 Agreeable Qua		Qualitative	Agreeable	Agreeable
3	рН	-	APHA 23rd Ed. 2017-4500 H ⁺	7.5	1 - 14	6.5-8.5	No Relaxation
4	Turbidity	NTU	APHA 23 rd Ed. 2017-2130 B	<2.0	2 - 40	1	5
5	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 1984 Reaffirmed: 2017	388.6	10 - 5000	500	2000
6	Ammonia (as total ammonia-N)	mg/l	APHA 23 rd Ed. 2017-4500-NH ₃ F	<0.5	0.5 - 2	0.5	No Relaxation
7	Anionic Detergents (as MBAS)	mg/l	APHA 23 rd Ed. 2017-5540 C	<0.05	0.05 - 0.5	0.2	1.0
8	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	54.4	2.0 - 600	75	200
9	Magnesium as Mg	mg/l	APHA 23 rd Ed. 2017-3500 Mg, B	29.16	0.1 - 200	30	100
10	Chloride as Cl	mg/l	APHA 23 rd Ed. 2017-4500-CI ⁻ B	26.0	2.0 - 2000	250	1000
11	Fluoride as F	mg/l	APHA 23 rd Ed. 2017-4500 F ⁻ C	0.39	0.02 - 5.0	1.0	1.5
12	Free Residual Chlorine	mg/l	IS: 3025 (Part-26): 1986 Reaffirmed: 2019	<0.1	0.1 - 5.0	0.2	1.0
13	Nitrate as NO ₃	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	<1.0	1.0 - 70	45	No Relaxation
14	Phenolic Compound (as C ₆ H ₅ OH)	mg/l	APHA 23 rd Ed. 2017-5530 C	<0.001	0.001 - 0.005	0.001	0.002
15	Sulphate as SO ₄	mg/l	APHA 23 rd Ed. 2017-4500- SO4 ²⁻	28.0	1.0 - 500	200	400
16	Alkalinity as CaCO ₃	mg/l	APHA 23rd Ed. 2017-2320 B	280.0	2.0 - 1000	200	600
17	Total Hardness as CaCO ₃	mg/l	APHA 23 rd Ed. 2017-2340 C	256.0	5.0 - 800	200	600
18	Aluminium as Al	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	<0.015	0.015 - 5.0	0.03	0.2
19	Boron as B	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	<0.05	0.05 - 2.0	0.5	1.0
20	Copper as Cu	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	<0.03	0.03 - 10	0.05	1.5
21	Iron as Fe	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	0.12	0.05 - 20	0.3	No Relaxation
22	Manganese as Mn	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	0.06	0.02 - 5.0	0.1	0.3
23	Zinc as Zn	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	0.34	0.05 - 15	5	15
24	Cadmium as Cd	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	<0.05	0.05 - 2.0	0.003	No Relaxation
25	Lead as Pb	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	<0.01	0.01 - 10	0.01	No Relaxation
26	Mercury as Hg	μg/l	APHA 23 rd Ed. 2017-3112 B	<0.5	0.5 - 1000	1.0	No Relaxation
27	Nickel as Ni	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	<0.05	0.05 - 5.0	0.02	No Relaxation
28	Arsenic as As	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	<0.02	0.02 - 2.0	0.01	0.05
29	Total Chromium	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	<0.03	0.03 - 5.0	0.05	No Relaxation
		. <u> </u>	Microbiological Parame	ters			
30	E. coli	MPN/ 100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	≥ 2 MPN Present or Absent per 100 ml		e detected in ml sample
31	T. coli	MPN/ 100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	\geq 2 MPN Present or Absent per 100 ml		e detected in ml sample

Table-3.12:

	Ground w	ater Qu	ality Results at Borewell (N	lear Projec	rt Site) (May	, 2023)	
Sr. No	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit		Standard 0: 2012
					of detection	Desirable	Permissible
			Physico-chemical Parame IS: 3025 (Part-4): 1983	eters			
1	Colour	Hazen	Reaffirmed: 2017	<5.0	5 - 30	5	15
2	Odour	-	IS: 3025 (Part-5): 1983 Reaffirmed: 2017	Agreeable	Qualitative	Agreeable	Agreeable
3	рН	-	APHA 23 rd Ed. 2017-4500 H ⁺	7.5	1 - 14	6.5-8.5	No Relaxation
4	Turbidity	NTU	APHA 23 rd Ed. 2017-2130 B	<2.0	2 - 40	1	5
5	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 1984 Reaffirmed: 2017	406.2	10 - 5000	500	2000
6	Ammonia (as total ammonia-N)	mg/l	APHA 23 rd Ed. 2017-4500-NH ₃ F	<0.5	0.5 - 2	0.5	No Relaxation
7	Anionic Detergents (as MBAS)	mg/l	APHA 23 rd Ed. 2017-5540 C	<0.05	0.05 - 0.5	0.2	1.0
8	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	59.2	2.0 - 600	75	200
9	Magnesium as Mg	mg/l	APHA 23rd Ed. 2017-3500 Mg, B	32.076	0.1 - 200	30	100
10	Chloride as Cl	mg/l	APHA 23rd Ed. 2017-4500-CI-B	30.0	2.0 - 2000	250	1000
11	Fluoride as F	mg/l	APHA 23 rd Ed. 2017-4500 F ⁻ C	0.36	0.02 - 5.0	1.0	1.5
12	Free Residual Chlorine	mg/l	IS: 3025 (Part-26): 1986 Reaffirmed: 2019	<0.1	0.1 - 5.0	0.2	1.0
13	Nitrate as NO3	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	<1.0	1.0 - 70	45	No Relaxation
14	Phenolic Compound (as C ₆ H ₅ OH)	mg/l	APHA 23 rd Ed. 2017-5530 C	<0.001	0.001 - 0.005	0.001	0.002
15	Sulphate as SO ₄	mg/l	APHA 23 rd Ed. 2017-4500- SO4 ²⁻	30.0	1.0 - 500	200	400
16	Alkalinity as CaCO ₃	mg/l	APHA 23rd Ed. 2017-2320 B	300.0	2.0 - 1000	200	600
17	Total Hardness as CaCO ₃	mg/l	APHA 23 rd Ed. 2017-2340 C	280.0	5.0 - 800	200	600
18	Aluminium as Al	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	<0.015	0.015 - 5.0	0.03	0.2
19	Boron as B	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	<0.05	0.05 - 2.0	0.5	1.0
20	Copper as Cu	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	<0.03	0.03 - 10	0.05	1.5
21	Iron as Fe	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	0.09	0.05 - 20	0.3	No Relaxation
22	Manganese as Mn	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	0.03	0.02 - 5.0	0.1	0.3
23	Zinc as Zn	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	0.46	0.05 - 15	5	15
24	Cadmium as Cd	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	<0.05	0.05 - 2.0	0.003	No Relaxation
25	Lead as Pb	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	<0.01	0.01 - 10	0.01	No Relaxation
26	Mercury as Hg	µg/l	APHA 23 rd Ed. 2017-3112 B	<0.5	0.5 - 1000	1.0	No Relaxation
27	Nickel as Ni	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	<0.05	0.05 - 5.0	0.02	No Relaxation
28	Arsenic as As	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	<0.02	0.02 - 2.0	0.01	0.05
29	Total Chromium	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	<0.03	0.03 - 5.0	0.05	No Relaxation
		_	Microbiological Parame	ters	> 2 MDV D		
30	E. coli	MPN/ 100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	\geq 2 MPN Present or Absent per 100 ml		e detected in ml sample
31	T. coli	MPN/ 100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	≥ 2 MPN Present or Absent per 100 ml		e detected in ml sample

Table-3.13:

	Ground w	ater Qu	ality Results at Borewell (N	lear Projec	, (
Sr.	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit	Indian Standard 10500: 2012	
No rest i ai ainctei					of detection	Desirable	Permissible
			Physico-chemical Parame IS: 3025 (Part-4): 1983	eters			
1	Colour	Hazen	Reaffirmed: 2017	<5.0	5 - 30	5	15
2	Odour	-	IS: 3025 (Part-5): 1983 Reaffirmed: 2017	Agreeable	Qualitative	Agreeable	Agreeable
3	рН	-	APHA 23 rd Ed. 2017-4500 H ⁺	7.4	1 - 14	6.5-8.5	No Relaxation
4	Turbidity	NTU	APHA 23 rd Ed. 2017-2130 B	<2.0	2 - 40	1	5
5	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 1984 Reaffirmed: 2017	412.0	10 - 5000	500	2000
6	Ammonia (as total ammonia-N)	mg/l	APHA 23 rd Ed. 2017-4500-NH ₃ F	<0.5	0.5 - 2	0.5	No Relaxation
7	Anionic Detergents (as MBAS)	mg/l	APHA 23 rd Ed. 2017-5540 C	<0.05	0.05 - 0.5	0.2	1.0
8	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	60.8	2.0 - 600	75	200
9	Magnesium as Mg	mg/l	APHA 23rd Ed. 2017-3500 Mg, B	31.10	0.1 - 200	30	100
10	Chloride as Cl	mg/l	APHA 23rd Ed. 2017-4500-CI-B	24.0	2.0 - 2000	250	1000
11	Fluoride as F	mg/l	APHA 23 rd Ed. 2017-4500 F ⁻ C	0.38	0.02 - 5.0	1.0	1.5
12	Free Residual Chlorine	mg/l	IS: 3025 (Part-26): 1986 Reaffirmed: 2019	<0.1	0.1 - 5.0	0.2	1.0
13	Nitrate as NO ₃	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	<1.0	1.0 - 70	45	No Relaxation
14	Phenolic Compound (as C ₆ H ₅ OH)	mg/l	APHA 23 rd Ed. 2017-5530 C	<0.001	0.001 - 0.005	0.001	0.002
15	Sulphate as SO ₄	mg/l	APHA 23 rd Ed. 2017-4500- SO4 ²⁻	26.0	1.0 - 500	200	400
16	Alkalinity as CaCO ₃	mg/l	APHA 23 rd Ed. 2017-2320 B	308.0	2.0 - 1000	200	600
17	Total Hardness as CaCO3	mg/l	APHA 23 rd Ed. 2017-2340 C	280.0	5.0 - 800	200	600
18	Aluminium as Al	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	<0.015	0.015 - 5.0	0.03	0.2
19	Boron as B	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	<0.05	0.05 - 2.0	0.5	1.0
20	Copper as Cu	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	<0.03	0.03 - 10	0.05	1.5
21	Iron as Fe	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	0.13	0.05 - 20	0.3	No Relaxation
22	Manganese as Mn	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	0.04	0.02 - 5.0	0.1	0.3
23	Zinc as Zn	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	0.38	0.05 - 15	5	15
24	Cadmium as Cd	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	<0.05	0.05 - 2.0	0.003	No Relaxation
25	Lead as Pb	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	<0.01	0.01 - 10	0.01	No Relaxation
26	Mercury as Hg	µg/l	APHA 23 rd Ed. 2017-3112 B	<0.5	0.5 - 1000	1.0	No Relaxation
27	Nickel as Ni	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	<0.05	0.05 - 5.0	0.02	No Relaxation
28	Arsenic as As	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	<0.02	0.02 - 2.0	0.01	0.05
29	Total Chromium	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	<0.03	0.03 - 5.0	0.05	No Relaxation
			Microbiological Parame	ters	> 2 MDV D		
30	E. coli	MPN/ 100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	\geq 2 MPN Present or Absent per 100 ml		e detected in ml sample
31	T. coli	MPN/ 100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	≥ 2 MPN Present or Absent per 100 ml		e detected in ml sample

EC Compliance April, 2023 to September, 2023

Sr.	Test Parameter	Unit	ality Results at Borewell (N Protocol/Test Method	Result	Range of testing /limit	Indian	Standard 0: 2012
No					of detection	Desirable	Permissible
		1	Physico-chemical Parame	eters		1	1
1	Colour	Hazen	IS: 3025 (Part-4): 1983 Reaffirmed: 2017	<5.0	5 - 30	5	15
2	Odour	-	IS: 3025 (Part-5): 1983 Reaffirmed: 2017	Agreeable	Qualitative	Agreeable	Agreeable
3	рН	-	APHA 23 rd Ed. 2017-4500 H ⁺	7.5	1 - 14	6.5-8.5	No Relaxation
4	Turbidity	NTU	APHA 23rd Ed. 2017-2130 B	<2.0	2 - 40	1	5
5	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 1984 Reaffirmed: 2017	402.5	10 - 5000	500	2000
6	Ammonia (as total ammonia-N)	mg/l	APHA 23 rd Ed. 2017-4500-NH ₃ F	<0.5	0.5 - 2	0.5	No Relaxation
7	Anionic Detergents (as MBAS)	mg/l	APHA 23 rd Ed. 2017-5540 C	<0.05	0.05 - 0.5	0.2	1.0
8	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	56.0	2.0 - 600	75	200
9	Magnesium as Mg	mg/l	APHA 23rd Ed. 2017-3500 Mg, B	31.10	0.1 - 200	30	100
10	Chloride as Cl	mg/l	APHA 23 rd Ed. 2017-4500-CI ⁻ B	26.0	2.0 - 2000	250	1000
11	Fluoride as F	mg/l	APHA 23rd Ed. 2017-4500 F-C	0.40	0.02 - 5.0	1.0	1.5
12	Free Residual Chlorine	mg/l	IS: 3025 (Part-26): 1986 Reaffirmed: 2019	<0.1	0.1 - 5.0	0.2	1.0
13	Nitrate as NO3	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	<1.0	1.0 - 70	45	No Relaxation
14	Phenolic Compound (as C ₆ H ₅ OH)	mg/l	APHA 23 rd Ed. 2017-5530 C	<0.001	0.001 - 0.005	0.001	0.002
15	Sulphate as SO ₄	mg/l	APHA 23 rd Ed. 2017-4500- SO4 ²⁻	30.0	1.0 - 500	200	400
16	Alkalinity as CaCO ₃	mg/l	APHA 23rd Ed. 2017-2320 B	296.0	2.0 - 1000	200	600
17	Total Hardness as CaCO3	mg/l	APHA 23 rd Ed. 2017-2340 C	268.0	5.0 - 800	200	600
18	Aluminium as Al	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	<0.015	0.015 - 5.0	0.03	0.2
19	Boron as B	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	<0.05	0.05 - 2.0	0.5	1.0
20	Copper as Cu	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	<0.03	0.03 - 10	0.05	1.5
21	Iron as Fe	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	0.14	0.05 - 20	0.3	No Relaxation
22	Manganese as Mn	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	0.06	0.02 - 5.0	0.1	0.3
23	Zinc as Zn	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	0.56	0.05 - 15	5	15
24	Cadmium as Cd	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	<0.05	0.05 - 2.0	0.003	No Relaxation
25	Lead as Pb	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	<0.01	0.01 - 10	0.01	No Relaxation
26	Mercury as Hg	µg/l	APHA 23 rd Ed. 2017-3112 B	<0.5	0.5 - 1000	1.0	No Relaxation
27	Nickel as Ni	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	<0.05	0.05 - 5.0	0.02	No Relaxation
28	Arsenic as As	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	<0.02	0.02 - 2.0	0.01	0.05
29	Total Chromium	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	<0.03	0.03 - 5.0	0.05	No Relaxation
			Microbiological Parame	ters	\geq 2 MPN Present	a1 **	.
30	E. coli	MPN/ 100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	or Absent per 100 ml	any 100	e detected in ml sample
31	T. coli	MPN/ 100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	≥ 2 MPN Present or Absent per 100 ml		e detected in ml sample

Table-3.14: Ground water Quality Results at Borewell (Near Project Site) (July, 2023)

Table-3.15:

	Ground wa	ter Qua	llity Results at Borewell (No	ear Project	: Site) (Augu	st, 2023)	
Sr. No	Test Parameter	Test Parameter Unit Protocol/Test Method		Result	Range of testing /limit of detection	Indian Standard 10500: 2012 Desirable Permissi	
			Physico-chemical Param	eters	of detection	Desirable	rermissible
1	Colour	Hazen	IS: 3025 (Part-4): 1983 Reaffirmed: 2017	<5.0	5 - 30	5	15
2	Odour	-	IS: 3025 (Part-5): 1983 Reaffirmed: 2017	Agreeable	Qualitative	Agreeable	Agreeable
3	рН	-	APHA 23 rd Ed. 2017-4500 H ⁺	7.4	1 - 14	6.5-8.5	No Relaxation
4	Turbidity	NTU	APHA 23 rd Ed. 2017-2130 B	<2.0	2 - 40	1	5
5	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 1984 Reaffirmed: 2017	390.6	10 - 5000	500	2000
6	Ammonia (as total ammonia-N)	mg/l	APHA 23 rd Ed. 2017-4500-NH ₃ F	<0.5	0.5 - 2	0.5	No Relaxation
7	Anionic Detergents (as MBAS)	mg/l	APHA 23 rd Ed. 2017-5540 C	<0.05	0.05 - 0.5	0.2	1.0
8	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	54.4	2.0 - 600	75	200
9	Magnesium as Mg	mg/l	APHA 23 rd Ed. 2017-3500 Mg, B	31.10	0.1 - 200	30	100
10	Chloride as Cl	mg/l	APHA 23 rd Ed. 2017-4500-CI ⁻ B	28.0	2.0 - 2000	250	1000
11	Fluoride as F	mg/l	APHA 23 rd Ed. 2017-4500 F ⁻ C	0.36	0.02 - 5.0	1.0	1.5
12	Free Residual Chlorine	mg/l	IS: 3025 (Part-26): 1986 Reaffirmed: 2019	<0.1	0.1 - 5.0	0.2	1.0
13	Nitrate as NO3	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	<1.0	1.0 - 70	45	No Relaxation
14	Phenolic Compound (as C ₆ H ₅ OH)	mg/l	APHA 23 rd Ed. 2017-5530 C	<0.001	0.001 - 0.005	0.001	0.002
15	Sulphate as SO ₄	mg/l	APHA 23 rd Ed. 2017-4500- SO4 ²⁻	26.0	1.0 - 500	200	400
16	Alkalinity as CaCO ₃	mg/l	APHA 23 rd Ed. 2017-2320 B	292.0	2.0 - 1000	200	600
17	Total Hardness as CaCO ₃	mg/l	APHA 23 rd Ed. 2017-2340 C	264.0	5.0 - 800	200	600
18	Aluminium as Al	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	<0.015	0.015 - 5.0	0.03	0.2
19	Boron as B	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	<0.05	0.05 - 2.0	0.5	1.0
20	Copper as Cu	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	<0.03	0.03 - 10	0.05	1.5
21	Iron as Fe	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	0.12	0.05 - 20	0.3	No Relaxation
22	Manganese as Mn	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	0.05	0.02 - 5.0	0.1	0.3
23	Zinc as Zn	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	0.43	0.05 - 15	5	15
24	Cadmium as Cd	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	<0.05	0.05 - 2.0	0.003	No Relaxation
25	Lead as Pb	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	<0.01	0.01 - 10	0.01	No Relaxation
26	Mercury as Hg	µg/l	APHA 23 rd Ed. 2017-3112 B	<0.5	0.5 - 1000	1.0	No Relaxation
27	Nickel as Ni	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	<0.05	0.05 - 5.0	0.02	No Relaxation
28	Arsenic as As	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	<0.02	0.02 - 2.0	0.01	0.05
29	Total Chromium	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	<0.03	0.03 - 5.0	0.05	No Relaxation
		1	Microbiological Parame	ters	> 1 MINUP		
30	E. coli	MPN/ 100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	≥ 2 MPN Present or Absent per 100 ml		e detected in ml sample
31	T. coli	MPN/ 100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	≥ 2 MPN Present or Absent per 100 ml		e detected in ml sample

No Image: control of the section is a probability of the sectin is probability of the section is a probability of the	Sr. No	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit		Standard 0: 2012
1 Colour Hazen Its 302 (Bra-4): 1983 Realifimed: 2017 <5.0	NO						Desirable	Permissible
I Calour Hazen Realfimed: 2017 S. J S S. J S S. J S S. J J 2 Odour - IK:3025 (Par5): 1983 Agrecable Qualitative Agrecable Agrec					eters			1
2 Otion - Reaffirmed: 2017 Agreeane Opalatiative Agreeane Agreeane 3 pH - APHA 23 ⁴ Ed. 2017-4500 HT 7.5 1 -14 6.5-8.5 No 5 Turbisolvet Solids mg/l Reaffirmed: 2017 388.6 10 - 5000 500 2000 6 Ammonia (ns total amonia: N) mg/l APHA 23 ^{4d} Ed. 2017-4500-NH1, F <0.5	1	Colour	Hazen	Reaffirmed: 2017	<5.0	5 - 30	5	15
j pli - APHA 23* Ed. 2017-4300 H* 7.5 1-14 6.5*8.3 Relaxation 4 Turkhity NTU APHA 23* Ed. 2017-2130 B -2.0 2.40 1 5 6 Turkhity mg/1 APHA 23* Ed. 2017-2130 B -2.0 2.40 1 5 7 Monoia (as total amonia (as total amoniamonia (as total amoniamonia (as total amoniamonia (as	2	Odour	-		Agreeable	Qualitative	Agreeable	Agreeable
5 Total Dissolved Solids (TDS) mg/l II: 322 (Part-16): 1984 Reaffirmed: 2017 388.6 10 - 5000 500 2000 6 Ammonia (as total manonia: N) mg/l APHA 23 ^{af} Ed. 2017-4500-NH ₁ F 0.5 0.5 - 2 0.5 Relaxation 7 MiBAS mg/l APHA 23 ^{af} Ed. 2017-4500-NH ₁ F 0.65 0.05 - 0.5 0.2 1.0 8 Calcium as Ca mg/l APHA 23 ^{af} Ed. 2017-3500 Mg, B 28.18 0.1 - 200 30 100 10 Chloride as C mg/l APHA 23 ^{af} Ed. 2017-4500 FC 0.37 0.022 - 5.0 1.0 1.5 11 Firee Residual mg/l APHA 23 ^{af} Ed. 2017-4500 FC 0.37 0.02 1.0 1.5 12 Free Residual mg/l APHA 23 ^{af} Ed. 2017-4500 FC 0.01 0.01 - 5.0 0.02 1.0 13 Nitrate as NO ₃ mg/l APHA 23 ^{af} Ed. 2017-5300 C < 0.001 0.001 0.002 0.00 400 14 Phenolic Compount (as C1HeOH) mg/l APHA 23 ^{af}	3	рН	-		7.5		6.5-8.5	No Relaxation
5 (TDS) mg/l Realifimed: 2017 388.6 $10^{-0.000}$ 5000 2000 6 Ammonics total ammonis-N) mg/l APHA 23 ^{dl} Ed. 2017-5500 C 40.5 $0.5 - 2$ 0.5 Relaxation Relaxation 7 Arionic Detergents (as MBAS) mg/l APHA 23 ^{dl} Ed. 2017-5500 C 40.65 $0.05 - 0.5$ 0.2 1.0 8 Calcium as Ca mg/l APHA 23 ^{dl} Ed. 2017-3500 Mg, B 28.18 $0.1 - 200$ 300 100 9 Magnesiam as Mg mg/l APHA 23 ^{dl} Ed. 2017-4500 CF 0.37 $0.02 - 5.0$ 1.0 1.5 10 Chlorine mg/l APHA 23 ^{dl} Ed. 2017-4500 FC 0.37 $0.02 - 5.0$ 1.0 1.5 11 Fleoride as F mg/l Ms: 3025 (Part-34); 1986 <1.0 $1.0 - 70$ 45 Relaxation 12 Free Residual (as Call;01) mg/l APHA 23 ^{dl} Ed. 2017-3200 E 26.0 $1.0 - 70$ 45 $Relaxation 14 Phenoic Compound(as Call;01) mg/l APHA$	4		NTU		<2.0	2 - 40	1	5
0 ammonia-N) mg/l APHA 23* Ed. 2017-4500 C 40.05 $0.5 \cdot 2$ 0.3 Relaxation 7 Anionic Detergents (as MBAS) mg/l APHA 23* Ed. 2017-5540 C 40.05 $0.05 \cdot 0.5$ 0.2 1.0 8 Calcium as Ca mg/l HEA 23* Ed. 2017-4500 Mg, B 28.18 $0.1 - 200$ 30 100 9 Magnesium as Mg mg/l APHA 23* Ed. 2017-4500 F C 0.37 $0.02 - 5.0$ 1.0 1.5 10 Chloride as C1 mg/l APHA 23* Ed. 2017-4500 F C 0.37 $0.02 - 5.0$ 1.0 1.5 12 Free Residual mg/l Resultimed: 2019 < 4.1 $0.1 - 5.0$ 0.2 1.0 13 Nitrate as NO3 mg/l APHA 23* Ed. 2017-4500 C < 0.001 $0.001 - 0.005$ 0.001 0.002 14 Phenoitc Compound (as Calfold) mg/l APHA 23* Ed. 2017-3208 284.0 $2.0 - 1000$ 200 600 15 Sulphate as S0. mg/l APHA 23* Ed. 2017-3120 B	5		mg/l		388.6	10 - 5000	500	2000
J MBAS) Ing.1 ATLA 23 CL 2017:300 C Co.03 0.02^{-1} 0.2^{-1} 10^{-2} 8 Calcium as Ca mg/1 Reaffirmed: 2019 54.4 $2.0 - 600$ 75 200 9 Magnesium as Mg mg/1 APIHA 23 ⁻⁴ Ed. 2017-4500 CF B 30.0 2.0 - 2000 250 1000 11 Fluoride as C1 mg/1 APIHA 23 ⁻⁴ Ed. 2017-4500 F C 0.37 0.02 - 5.0 1.0 1.5 12 Free Residual mg/1 Reaffirmed: 2019 <0.1	6	ammonia-N)	mg/l	APHA 23 rd Ed. 2017-4500-NH ₃ F	<0.5	0.5 - 2	0.5	No Relaxation
δ Calculum as Ca mg/l Reaffirmed: 2019 54.4 2.0 + 000 7.5 2.00 9 Magnesium as Mg mg/l APHA 23 ⁴⁸ Ed. 2017-3500 Mg, B 28.18 0.1 - 200 30 100 10 Chloride as C1 mg/l APHA 23 ⁴⁸ Ed. 2017-4500 F C 0.037 0.02 - 5.0 1.0 1.5 12 Free Residual Chlorine mg/l IS: 3025 (Part-26): 1986 <0.1	7		mg/l	APHA 23 rd Ed. 2017-5540 C	<0.05	0.05 - 0.5	0.2	1.0
10 Chloride as Cl mg/l APHA 23 ^{ad} Ed. 2017-4500 + Cl B 30.0 2.0 - 2000 250 1000 11 Fituoride as F mg/l APHA 23 ^{ad} Ed. 2017-4500 + C 0.37 0.02 - 5.0 1.0 1.5 12 Free Residual Chlorine mg/l IS: 3025 (Part-26): 1986 Reaffirmed: 2019 <0.1	8	Calcium as Ca	mg/l	Reaffirmed: 2019	54.4	2.0 - 600	75	200
11 Fluoride as F mg/l APHA 23 rd Ed. 2017-4500 F·C 0.37 0.02 - 5.0 1.0 1.5 12 Free Residual Chlorine mg/l IS: 3025 (Part-26): 1986 <0.1			-		28.18			100
12 Free Residual Chlorine mg/l IS: 3025 (Part-26): 1986 Reaffirmed: 2019 <0.1 0.1 - 5.0 0.2 1.0 13 Nitrate as NO3 mg/l IS: 3025 (Part-34): 1986 Reaffirmed: 2019 <1.0	10							
12 Chlorine Ingri Reaffirmed: 2019 < 0.1 $0.1 - 3.0$ 0.2 1.0 13 Nitrate as NO3 mg/l IS: 3025 (Part-34): 1986 Reaffirmed: 2019 < 1.0 $1.0 - 70$ 45 No Relaxation 14 Phenolic Compound (as CdH5OH) mg/l APHA 23rd Ed. 2017-5530 C < 0.001 $0.001 - 0.005$ 0.001 0.002 15 Sulphate as SO4 mg/l APHA 23rd Ed. 2017-3200 B 284.0 $2.0 - 1000$ 200 600 16 Alkalinity as CaCO3 mg/l APHA 23rd Ed. 2017-3120 B < 0.015 $0.015 - 5.0$ 0.03 0.22 19 Boron as B mg/l APHA 23rd Ed. 2017-3120 B < 0.05 $0.05 - 2.0$ 0.5 1.0 20 Copper as Cu mg/l APHA 23rd Ed. 2017-3120 B < 0.05 $0.05 - 2.0$ 0.5 1.0 21 Iron as Fe mg/l APHA 23rd Ed. 2017-3120 B 0.03 $0.02 - 5.0$ 0.1 0.3 22 Manganesea sMn mg/l APHA 23rd Ed. 2017-3	11		mg/l		0.37	0.02 - 5.0	1.0	1.5
13 Nutrate as NO3 mg/l Reaffirmed: 2019 < 1.0 0.001 0.002 1.0 0.001 0.002 1.0 0.001 0.002 1.0 0.001 0.002 1.0 0.001 0.002 1.0 0.001 0.002 1.00 1.0 0.001 0.001 0.002 1.00 1.00 1.0 1.00 1.0 <th1.0< th=""> <th1.0< th=""> 1.0</th1.0<></th1.0<>	12		mg/l	Reaffirmed: 2019	<0.1	0.1 - 5.0	0.2	
14 (as CdHsOH) Ingl AFRA 25° Ed. 2017-3530C 40.001 0.001 $-$ 0.0003 0.001 0.011 <td>13</td> <td>-</td> <td>mg/l</td> <td></td> <td><1.0</td> <td>1.0 - 70</td> <td>45</td> <td>No Relaxation</td>	13	-	mg/l		<1.0	1.0 - 70	45	No Relaxation
16 Akalinity as CaCO3 $mg/1$ APHA 23 ^{ad} Ed. 2017-2320 B 284.0 2.0 - 1000 200 600 17 Total Hardness as CaCO3 $mg/1$ APHA 23 ^{ad} Ed. 2017-2340 C 252.0 5.0 - 800 200 600 18 Aluminium as Al $mg/1$ APHA 23 ^{ad} Ed. 2017-3120 B <0.015	14		mg/l	APHA 23 rd Ed. 2017-5530 C	<0.001	0.001 - 0.005	0.001	0.002
17 Total Hardness as CaCO3 mg/l APHA 23rd Ed. 2017-2340 C 252.0 $5.0 - 800$ 200 600 18 Aluminium as Al mg/l APHA 23rd Ed. 2017-3120 B (ICP-OES) <0.015	15	Sulphate as SO ₄	mg/l	APHA 23 rd Ed. 2017-4500- SO4 ²⁻	26.0	1.0 - 500	200	400
17 CaCO3 Img/l APHA 23** Ed. 2017-2340 C 222.0 5.0 - 800 200 600 18 Aluminium as Al mg/l APHA 23** Ed. 2017-3120 B (ICP-OES) <0.015	16	-	mg/l	APHA 23 rd Ed. 2017-2320 B	284.0	2.0 - 1000	200	600
18 Aluminum as Al mg/l (ICP-OES) <0.015 0.015 0.03 0.2 19 Boron as B mg/l APHA 23 rd Ed. 2017-3120 B (ICP-OES) <0.05	17		mg/l		252.0	5.0 - 800	200	600
19 Boron as B mg/l (ICP-OES) <0.05 $0.05 - 2.0$ 0.3 1.0 20 Copper as Cu mg/l APHA 23^{rd} Ed. 2017-3120 B (ICP-OES) <0.03	18	Aluminium as Al	mg/l	(ICP-OES)	<0.015	0.015 - 5.0	0.03	0.2
20 Copper as Cu mg/l (ICP-OES) <0.03 $0.03 - 10$ 0.05 1.5 21 Iron as Fe mg/l APHA 23 rd Ed. 2017-3120 B (ICP-OES) 0.15 $0.05 - 20$ 0.3 No Relaxation 22 Manganese as Mn mg/l APHA 23 rd Ed. 2017-3120 B (ICP-OES) 0.03 $0.02 - 5.0$ 0.1 0.3 23 Zinc as Zn mg/l APHA 23 rd Ed. 2017-3120 B (ICP-OES) 0.05 $0.05 - 15$ 5 15 24 Cadmium as Cd mg/l APHA 23 rd Ed. 2017-3120 B (ICP-OES) 0.05 $0.05 - 2.0$ 0.003 No Relaxation 25 Lead as Pb mg/l APHA 23 rd Ed. 2017-3120 B (ICP-OES) <0.01 $0.01 - 10$ 0.01 No Relaxation 26 Mercury as Hg µg/l APHA 23 rd Ed. 2017-3120 B (ICP-OES) <0.05 $0.05 - 5.0$ 0.02 No Relaxation 27 Nickel as Ni mg/l APHA 23 rd Ed. 2017-3120 B (ICP-OES) <0.02 $0.02 - 2.0$ 0.01 0.05 29 Total Chromium	19	Boron as B	mg/l	(ICP-OES)	<0.05	0.05 - 2.0	0.5	1.0
21 Iron as Fe mg/l (ICP-OES) 0.15 0.05 - 20 0.3 Relaxation 22 Manganese as Mn mg/l APHA 23rd Ed. 2017-3120 B (ICP-OES) 0.03 0.02 - 5.0 0.1 0.3 23 Zinc as Zn mg/l APHA 23rd Ed. 2017-3120 B (ICP-OES) 0.55 0.05 - 15 5 15 24 Cadmium as Cd mg/l APHA 23rd Ed. 2017-3120 B (ICP-OES) <0.05	20	Copper as Cu	mg/l	(ICP-OES)	<0.03	0.03 - 10	0.05	1.5
22 Manganese as Mn mg/l (ICP-OES) 0.03 $0.02 - 3.0$ 0.1 0.3 23 Zinc as Zn mg/l APHA 23 rd Ed. 2017-3120 B (ICP-OES) 0.55 $0.05 - 15$ 5 15 24 Cadmium as Cd mg/l APHA 23 rd Ed. 2017-3120 B (ICP-OES) <0.05 $0.05 - 2.0$ 0.003 No Relaxation 25 Lead as Pb mg/l APHA 23 rd Ed. 2017-3120 B (ICP-OES) <0.01 $0.01 - 10$ 0.01 Relaxation 26 Mercury as Hg µg/l APHA 23 rd Ed. 2017-3112 B <0.5 $0.5 - 1000$ 1.0 Relaxation 27 Nickel as Ni mg/l APHA 23 rd Ed. 2017-3120 B (ICP-OES) <0.05 $0.05 - 5.0$ 0.02 No Relaxation 28 Arsenic as As mg/l APHA 23 rd Ed. 2017-3120 B (ICP-OES) <0.02 $0.02 - 2.0$ 0.01 0.05 29 Total Chromium mg/l APHA 23 rd Ed. 2017-3120 B (ICP-OES) <0.03 $0.03 - 5.0$ 0.05 Relaxation 30 E. coli MPN/ 100 ml Reaffirmed: 2019 Absent $≥ 2 MPN Present or Absent per 100ml Shall $	21	Iron as Fe	mg/l	(ICP-OES)	0.15	0.05 - 20	0.3	No Relaxation
23Zinc as Znmg/l(ICP-OES)0.55 $0.05 - 15$ 51524Cadmium as Cdmg/lAPHA 23rd Ed. 2017-3120 B (ICP-OES)<0.05	22	Manganese as Mn	mg/l	(ICP-OES)	0.03	0.02 - 5.0	0.1	0.3
24Cadmium as Cdmg/l(ICP-OES)<0.05 $0.05 - 2.0$ 0.003 Relaxation25Lead as Pbmg/lAPHA 23 rd Ed. 2017-3120 B (ICP-OES)<0.01	23	Zinc as Zn	mg/l	(ICP-OES)	0.55	0.05 - 15	5	
25Lead as P5mg/l(ICP-OES)<0.01 $0.01 - 10$ $0.01 - 10$ 0.01 Relaxation26Mercury as Hg $\mu g/l$ APHA 23 rd Ed. 2017-3112 B<0.5	24	Cadmium as Cd	mg/l	(ICP-OES)	<0.05	0.05 - 2.0	0.003	Relaxation
26Mercury as Hg $\mu g/1$ APHA 23te Ed. 2017-3112 B<0.5 $0.5 - 1000$ 1.0Relaxation27Nickel as Nimg/1APHA 23te Ed. 2017-3120 B (ICP-OES)<0.05	25	Lead as Pb	mg/l		<0.01	0.01 - 10	0.01	Relaxation
27Nickel as Nimg/l(ICP-OES)<0.05 $0.05 - 5.0$ 0.02 Relaxation28Arsenic as Asmg/lAPHA 23 rd Ed. 2017-3120 B (ICP-OES)<0.02	26	Mercury as Hg	µg/l		<0.5	0.5 - 1000	1.0	Relaxation
28Arsenic as Asmg/l(ICP-OES)<0.02 $0.02 - 2.0$ 0.01 0.05 29Total Chromiummg/lAPHA 23 rd Ed. 2017-3120 B (ICP-OES)<0.03	27	Nickel as Ni	mg/l	(ICP-OES)	<0.05	0.05 - 5.0	0.02	No Relaxation
29Total Chromiummg/l(ICP-OES)<0.03 $0.03 - 5.0$ 0.05 RelaxationMicrobiological Parameters30E. coliMPN/IS: 1622 - 1981 Reaffirmed: 2019Absent $\geq 2 MPN Presentor Absent per 100mlShall not be detected inany 100 ml sample31T. coliMPN/IS: 1622 - 1981Pacefirmed: 2010Absent\geq 2 MPN Presentor Absent per 100or Absent per 100Shall not be detected inany 100 ml sample$	28	Arsenic as As	mg/l	(ICP-OES)	<0.02	0.02 - 2.0	0.01	
30E. coliMPN/ 100 mlIS: 1622 - 1981 Reaffirmed: 2019Absent $\geq 2 MPN Presentor Absent per 100mlShall not be detected inany 100 ml sample31T. coliMPN/100 mlIS: 1622 - 1981Present00 mlAbsent\geq 2 MPN Presentor Absent per 100or Absent per 100Shall not be detected inany 100 ml sample$	29	Total Chromium	mg/l	(ICP-OES)		0.03 - 5.0	0.05	No Relaxation
30E. coliMFN/15. $1022 - 1981$ Reaffirmed: 2019Absentor Absent per 100 mlShall not be detected in any 100 ml sample31T. coliMPN/IS: $1622 - 1981$ IS: $1622 - 1981$ Present any 100 mlAbsent $\geq 2 MPN Present$ or Absent per 100 or Absent per 100Shall not be detected in any 100 ml sample				8	ters	> 2 MDV D		
31 T. coli INITIV 15. 1022 - 1961 Absent or Absent per 100 relationer la contra contra la contra contra la contra la contra la contra contra la	30	E. coli			Absent	or Absent per 100		
	31	T. coli	MPN/ 100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	\geq 2 MPN Present		

3.5 SOIL MONITORING

3.5.1 Soil Monitoring Locations

The objective of the soil monitoring is to identify the impacts of ongoing project activities on soil quality and also predict impacts, which have arisen due to execution of various construction activities. Accordingly, a study of assessment of the soil quality has been carried out.

To assess impacts of ongoing project activities on the soil in the area, the Physico-chemical characteristics of soils were examined by obtaining soil samples from selected points and analysis of the same. Single sample of soil was collected from the project site for studying soil characteristics, the location of which is listed in **Table-3.17**.

	Details of Soil Monitoring Stations						
Sr. No Location Code Location name and description							
	1.	SQ - 01	Near Project Site				

Table-3.17:Details of Soil Monitoring Stations

3.5.2 Methodology of Soil Monitoring

The sampling has been done in line with IS: 2720 & Methods of Soil Analysis, Part - 01st, 02nd Edition, 1986 of American Society for Agronomy and Soil Science Society of America. The homogenized samples were analyzed for physical and chemical characteristics (physical, chemical and heavy metal concentrations). The soil samples were collected in the month of September on 20.09.2023.

The samples have been analyzed as per the established scientific methods for Physico-chemical parameters. The heavy metals have been analyzed by using Atomic Absorption Spectro-photometer.

3.5.3 Soil Monitoring Results

Single sample of soil is collected from the site to check the quality of soil of the study area. The Physico-chemical characteristics of the soil, as obtained from the analysis of the soil sample, are presented in **Table-3.18**.

EC Compliance April, 2023 to September, 2023

	l nysi	eo chemicai	Characteristics of Soli at Fr	oject site	
Sr. No.	Test Parameter	Unit	Protocol/ Test Method	Result	Range of testing /limit of detection
1	рН	-	IS: 2720 (Part-26): 1987 Reaffirmed: 2021	7.2	1 - 14
2	Electrical Conductivity	µmhos/cm	IS: 14767:2000 Reaffirmed: 2021	324.0	1.0 - 40000
3	Moisture content	%	IS: 2720 (Part-2): 1973 Reaffirmed: 2020	3.12	1.0 - 50
4	Nitrate as N	kg/Hec	Method Manual of Soil Testing in India	286.5	5.0 - 500
5	Phosphorus (as P2O5)	kg/Hec	Method Manual of Soil Testing in India	20.38	1.0 - 2000
6	Potash as K ₂ O	kg/Hec	Method Manual of Soil Testing in India	102.6	1.0 - 2000
7	Sulphur	mg/kg	IS:14685: 1999 Reaffirmed: 2019	12.84	5.0 - 100
8	Boron	mg/kg	Method Manual of Soil Testing in India	BDL	4.0 - 100
9	Copper	mg/kg	Method Manual of Soil Testing in India	0.36	0.3 - 500
10	Zinc	mg/kg	Method Manual of Soil Testing in India	2.38	1.0 - 500
11	Iron	mg/kg	Method Manual of Soil Testing in India	69.84	5.0 - 500
12	Manganese	mg/kg	Method Manual of Soil Testing in India		5.0 - 500

Table-3.18:Physico-Chemical Characteristics of Soil at Project Site

3.5.4 Discussion on Soil Characteristics in the Study Area

The soil in study area is characterized by moderate organic content. The soil quality in the project area has not been affected by the project activities

उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड UTTAR PRADESH POLLUTION CONTROL BOARD 121-7/21-931/2022

संदर्भ संख्या

दिनांक // ई-22 पंजीकृत/ई-मेल

सेवा में.

मैसर्स वेव इण्डस्ट्रीज प्रा0लि0 (आसवनी इकाई). ग्राम मलेसिया, तहसील धनौरा, अमरोहा।

विषय:- बोर्ड के पन्न संख्या 143237/UPPCB/Bijnore (UPPCBRO)/CTO/ Water/ JYOTIBA PHULE NAGAR/ 2021 दिनांक 24.01.2022 एवं पत्र संख्या 143217/UPPCB/Bijnore (UPPCBRO) /CTO/ air/ JYOTIBA PHULE NAGAR/ 2021 दिनांक 24.01.2022 द्वारा जल (प्रदूषण निवारण तथा नियंत्रण) अधिनियम 1974 यथासंशोाधित की धारा 25/26 एवं वायु (प्रदूषण निवारण तथा नियंत्रण) अधिनियम 1981 यथासंशोाधित की धारा 21/22 के अन्तर्गत निगत सशर्त सहमति जल एवं वायु में संशोधन किये जाने के संबंध में।

महोदय.

कृपया उपरोक्त विषयक अपने पत्र दिनांक शून्य का संदर्भ लें, उक्त पत्र के क्रम मे बोर्ड के पत्र संख्या 143237/UPPCB/Bijnore (UPPCBRO) /CTO/ Water/ JYOTIBA PHULE NAGAR/ 2021 दिनांक 24.01.2022 एवं पत्र संख्या 143217/UPPCB/Bijnore (UPPCBRO) /CTO/ air/ JYOTIBA PHULE NAGAR/ 2021 दिनांक 24.01.2022 द्वारा जल (प्रदूषण निवारण तथा नियंत्रण) अधिनियम 1974 यथासंशोाधित एवं वायु (प्रदूषण निवारण तथा नियंत्रण) अधिनियम 1981 यथासंशोाधित द्वारा निर्गत सशर्त सहमति जल एवं वायु में निम्नानुसार संशोधन किया जाता है-

संख्या 143237/UPPCB/Bijnore (UPPCBRO)/CTO/Water/JYOTIBA PHULE 1- पत्र NAGAR/2021 दिनांक : 24.01.2022 द्वारा निर्गत सशर्त सहमति जल-

CONDITIONS OF CONSENT

1- This Consent is valid for 140 KLD Ethanol Production by using B-Heavy Molasses/Sugar Syrup & 7 MW co-generation power and production of Ethyl Alcohal-100 KLD and co-generation power 7 MW by using C-Heavy Molasses.

SPECIFIC CONDITIONS

1- This Consent is valid for 140 KLD Ethanol Production by using B-Heavy Molasses/Sugar Syrup & 7 MW co-generation power and production of Ethyl Alcohal-100 KLD and co-generation power 7 MW by using C-Heavy Molasses.

143217/UPPCB/Bijnore(UPPCBRO)/CTO/air/JYOTIBA PHULE संख्या 2- पत्र NAGAR/2021 दिनांक : 24.01.2022 द्वारा निर्गत सशर्त सहमति वायु-

SPECIFIC CONDITIONS

1- This Consent is valid for 140 KLD Ethanol Production by using B-Heavy Molasses/Sugar Syrup & 7 MW co-generation power and production of Ethyl Alcohal-100 KLD and cogeneration power 7 MW by using C-Heavy Molasses.

-----P.T.O.

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T.C. 12 - V, Vibbuti Khand Gomti Nagar, Lucknow - 226010 Phone:2720831,2720828,2720691,2720681 Fax: 0522 - 2720764 4-Aninho@uppcb.com Web Site:

बोर्ड के पत्र संख्या 143237/UPPCB/Bijnore (UPPCBRO) /CTO/ Water/ JYOTIBA PHULE NAGAR/ 2021 दिनांक 24.01.2022 एवं पत्र संख्या 143217/UPPCB/Bijnore (UPPCBRO) /CTO/ air/ JYOTIBA PHULE NAGAR/ 2021 दिनांक 24.01.2022 द्वारा निर्मत सज्ञत सहमति जल एवं वायु जिसकी वैधता 31.12.2022 तक वैध है, की अन्य समस्त शर्ते यथावत रहेगी आपको निर्देशित किया जाता है कि बोर्ड द्वारा निर्गत सशर्त सहमति जल एवं वायु की समस्त शर्तों का अक्षरसः अनुपालन सुनिश्चित करें।

भवदीय

(जीवसीव आयी) पर्यावरण अभियन्यता, वृत्त-7

प्रतिलिपि : क्षेत्रीय अधिकारी उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड बिजनौर सूचनार्थ एवं आवश्यक कार्यवाही

हेतु प्रेषित।

पर्यावरण अभियन्यता, वृत्त-7



172038/UPPCB/Biinore(UPPCBRO)/CTO/both/AMROHA/2022

Date: 03/01/2023

To,	
M/s	
WAVE INDUSTRIES PRIVATE LIMITED UNIT DISTILLERY	
Village - Malasia. Musallepur, Tehsil - Dhanaura, Distt - Amroha,AMROHA,244231	Application Id- 18937291

Consolidated Consent to Operate and Authorisation hereinafter referred to as the CCA (Consolidated Consent & authorization) (Fresh) under Section-25 of the Water (Prevention & Control of Pollution) Act, 1974 and under Section-21 of the Air (Prevention & Control of Pollution) Act, 1981

CCA is hereby granted to WAVE INDUSTRIES PRIVATE LIMITED UNIT DISTILLERY located at Village - Malasia. Musallepur, Tehsil - Dhanaura, Distt - Amroha, AMROHA, 244231. subject to the provisions of the Water Act, Air Act and the orders that may be made further and subject to following terms and conditions :-

This CCA WAVE INDUSTRIES PRIVATE LIMITED UNIT DISTILLERY granted for the period 1. from 01/01/2023 to 31/12/2023 and valid for manufacturing of following products.

S No	Product	Quantity	Unit
1	Ethanol	140	Kilo Liters/Day
2	ethyl alcohol	100	Kilo Liters/Day

2. Conditions under Water(Prevention and Control of Pollution) Act -1974 as amended :-(i) The daily quantity of effluent discharge (KLD) :-

Kind of Effluent	Quantity(KLD)	Treatment facility	Discharge point	
Domestic	20 KLD	Septic Tank		
Industrial	ZLD	ЕТР	ZLD	

(ii) Trade Effluent Treatment and Disposal :- The applicant shall operate Effluent Treatment Plant consisting of primary/secondary and tertiary treatment as is required with reference to influent quantity and quality.

In case of stoppage of functioning of ETP, production has to be stopped immediately and this Board has to be intimated by fax/phone/email with a report in this regard to be dispatched immediately.

(iii) The treated effluent shall be recycled to the maximum extent and should be reused within the premises for gardening etc. Quality of the treated effluent shall meet to the following general and specific standards as prescribed under Environment (Protection) Rules, 1986 and applicable to the unit from time-to-time :-

Industrial Effluent Quality Standard

S.No.	Parameter	Standard
1	Quantity of Discharge	ZLD

(iv) Sewage Treatment and Disposal :- The applicant shall provide comprehensive STP as is required with reference to influent quantity and quality. In case of stoppage of functioning of STP, production has to be stopped immediately and this Board has to be intimated by fax/phone/email with a report in this regard to be dispatched immediately.

(v) The treated sewage shall be reused in gardening as far as possible. The STP shall be maintained continuously so as to achieve the quality of the treated sewage to the following standards.

S No.	Parameters	Standards
1	рН	5.5-9
2	BOD (mg/L)	30mg/l
3	TSS (mg/L)	100mg/l

3. Conditions under Air (Prevention and Control of Pollution) Act -1981 as amended :-

i) The applicant shall use following fuel and install a comprehensive control system consisting of control equipment as required with reference to generation of emissions and operate and maintain the same continuously so as to achieve the level of pollutants to the following standards.

Air Pollution Source Details

S No.	Air Pollution Source	Type of fuel	Stack no	Control Device	Height of Stack
1	Slop Boiler 45 TPH	Slop and Baggasse	01	Particulate Matter	Bag filter as APCS and stack height of 85 meters from ground level

Emmission Quality Standards

S No.	Stack no	Parameters	Standards	
1	01	Particulate Matter	50mg/NM3	

In case of stoppage of functioning of air pollution control equipment, production has to be stopped immediately and this Board has to be intimated by fax/phone/email with a report in this regard to be dispatched immediately

(ii) The unit will not use any type of restricted fuel.

iii) Noise from the D.G. Set and other source(s) should be controlled by providing an acoustic enclosure as is required for meeting the ambient noise standards for night and day time as prescribed for respective areas/zones (Industrial, Commercial, Residential, Silence) which are as follows :-

Day time : from 6.00 a.m. to 10.00 p.m., Night time: from 10.00 p.m. to 6.00 a.m.

Standards for Noise level in db(A) Leq	Industrial Area		Commercial Area		Residential Area		Silence Zone	
	Day Time	Night Time	Day Time	Night Time		Night Time		Night Time
	75	70	65	55	55	45	50	40

- 4. Essential documents to be submitted by the Industry/Unit as Applicable :-
- (i) Environment Statement in Form-V of Environment (Protection) Rules, 1986.

(ii) Quarterly compliance report of the CCA, photograph of ETP/APCs/Waste Storage Area.

5. Competent Authority reserves the right to change/modify/add any time any condition of this CCA.

6. Unit has to comply with the following specific & general conditions. Non compliance of any provision of this CCA and provisions of the Water Act, Air Act and Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 will results in legal action under the aforesaid Acts and Rules. 7. In compliance to the G.O 1011/81-7-2021-09 (Writ)/2016 dated.13.10.2021 issued by Department of Environment, Forest and Climate Change, Uttar Pradesh. You are directed to develop Miyawaki Forest as per the SOP available at URL:-http://www.upecp.in/TrainingSession.aspx for ensuring timely compliance of this direction, you are hereby directed to submit a bank guarantee with minimum validity of one year of the amount equivalent to the sum of initial consent fees (Air and Water) or Rs. 50,000/- (Rs. Fifty Thousand

Only) whichever is more, within 30 days from the date of issuance of this certificate. In case of noncompliance of this direction, your consent will be revoked by the Board.

8. If the unit uses the ground water and requires the permission from SGWA/CGWA for water abstraction then the industry will have to obtain No objection certificate for abstraction of ground water. It will be the responsibility of the industry to comply with the various conditions of the NOC obtained from the competent authority and submit to the Board, within 3 months time failing which CTO will be revoked.

General Conditions:-

1. The applicant shall get analysed the samples of effluent/emission/hazardous wastes at least once in a three month from the laboratory recognized by the MoEF and shall report to the UPPCB.

2. The applicant shall however, not without the prior consent of the Board bring into use any new or altered outlet for the discharge of effluent or gases emission or sewage waste from the unit.

3. Treated Industial waste water and domestic waste water shall be disposed jointly at one disposal point. The applicant shall provide discharge measurement equipment at final disposal point.

4. The applicant shall strictly comply with conditions of this CCA and submit compliance report of stipulated conditions within 30 days of receipt of this CCA. If at any point of time, it is found that the industry is not complying with stipulated conditions or any further direction/instruction issued by the Board, legal action shall be initiated against the applicant.

5. The applicant shall maintain good house keeping. All valves/pipes/sewer/drains etc. must be leak-proof

6. The industry shall provide uninterrupted entry to the STP/ETP inlet and outlet points, Air Pollution Control equipment and stack for smooth sampling/monitoring of efficiency of pollution control systems.7. The industry shall provide Inspection Book at the time of inspection to the Board's officials.

8. Whenever due to any accident or other unforeseen act or event, such emission occurs or is apprehended to occur in excess of standards laid down, such information shall be reported to the Board's offices and all other concerned offices. In case of failure of pollution control equipment, the production process connected to it shall be stopped with immediate effect.

9. The industry shall operate in a manner so that all emissions be emitted through designated chimney/stack only.

10. In case of any damage to the agriculture productivity, human habitation etc. by the operation of industry, it shall be imperative to stop production in the industry with immediate effect and such information shall be reported to Board's offices. The industry shall be liable to pay compensation also in such cases as decided by the Competent Authority.

11. The applicant shall apply before the 60 days of expiry of CCA or any change in production types/ production capacity/manufacturing process/capacity enhancement etc. or any change in effluent discharge point or emission point

12. The Board reserves the right to revoke/add/modify any stipulated condition issued along with CCA, as may be necessary.

Specific Conditions:-

1. This consent is valid for 140 KLD Ethanol Production by using B- Heavy Mollasses / sugar syrup &7 MW co-generation power and production of Ethyl Alcohal-100 KLD by using C- Heavy Mollasses and Co-generation power 7 MW.

2. This Consent to Operate shall be effected from directions passed by Hon'ble High Court Allahabad and Hon'ble National Green Tribunal, New Delhi.

3. Unit shall take ground water for domestic purpose from sister sugar unit and industrial water shall be used from treated water of ETP of sister sugar unit. Unit shall not dig any tubewell in the distillery unit.

4. Domestic effluent 20 KLD shall be disposed through STP and treated water shall be used in irrigation on land.

5. Unit shall identify recipient drains/ rivulets and their u/s & d/s location in consultation with UPPCB and shall carry out monthly monitoring of identified recipient drains at u/s & d/s location through lab recognized under Environment (Protection) Act,1986 and shall submit the analysis report on monthly basis by 10th of every month to CPCB and UPPCB.

6. Unit must strictly maintain zero liquid discharge of effluent outside premises into drain/river/water body and on land.

7. Unit must operate and maintain properly the installed flow meter and web camera with and shall ensure on line connectivity of flow meter and web camera with server of CPCB and UPPCB.

8. Unit shall develop Green Belt in minimum 33 percent area of Industrial Premises as per the provisions laid down in office order no. H16405/220/2018/02 dated 16-02-2018 of U.P. Pollution Control Board. The copy of said office order is available on the website of U.P. Pollution Control Board www.uppcb.com.

9. Process effluent / any waste water shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.

10. Unit shall maintain and operate Air pollution control system i. e. Bag filtre and stack height is 85 meter from ground level.

11. Unit shall install online emission monitoring system at the stack of Boiler of 45 TPH and maintain the records, and ensure the connectivity to the servers of CPCB and UPPCB.

12. Unit shall ensure that ambient air quality of nearby areas is not adversely affected due to operation and emissions of the unit.

13. The overall noise levels in and around area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc, on all sources of noise generation. The ambient noise level shall confirm to the standards under the Environment (Protection) Act 1986.

14. Unit shall make temporary storage facility for storage of hazardous waste in the premises before it will send to TSDF as per the provisions of Hazardous and Other Waste (Management and Transboundary Movement)Rules 2016.

15. Unit shall comply the provisions of Hazardous and Other Waste (Management and Transboundary Movement)Rules 2016 and shall obtain authorization for disposal of hazardous waste.

16. Unit shall install the board showing daily environmental statement ie chemicals used in the treatment of effluent, flow meter reading, hazardous waste generated and send to TSDF etc.at the main gate of the unit.

17. Unit shall comply the provisions of Water (Prevention and Control of Pollution) Act 1974 as Amended and Environment (Protection) Act 1986, and direction issued by Hon'ble National Green Tribunal, New Delhi in Order dated 13.07.2017 in OA no. 200/2014, M.C. Mehta v/s Union of India.

18. Unit shall submit ground water quality monitoring report and effluent monitoring report done by MoEF & CC approved laboratory in every 3 months.

19. This Consent order shall automatically become invalid on issuance of Closure Order by C.P.C.B / UPPCB and further on Revoking of Closure order, the Consent order shall become valid

Chief Environment Officer

Copy to:

Regional Officer Bijnore to ensure the compliance of the conditions imposed in the consent order.

Chief Environment Officer



UTTAR PRADESH POLLUTION CONTROL BOARD

Building. No TC-12V Vibhuti Khand, Gomti Nagar, Lucknow-226010

Phone:0522-2720828,2720831, Fax:0522-2720764, Email: info@uppcb.com, Website: www.uppcb.com

Ref No. - 33/UPHOC7/EIA/JYOTIBA PHULE NAGAR/2021

Dated:- 01/09/2021

To,

Shri VIRENDRA SINGH

M/s WAVE INDUSTRIES PRIVATE LIMITED UNIT DISTILLERY

Village - Malasia. Musallepur, Tehsil - Dhanaura, Distt - Amroha, AMROHA, 244231 JYOTIBA PHULE NAGAR

Sub: Certificate of "No Increase in Pollution Load" in compliance of notification issued by Ministry of Environment Forest & Climate Change, Government of India, vide its notification no. S.O. 980(E) 2nd March, 2021

Sir.

Kindly refer to the application dt 01/09/2021 related to sector Distillery for obtaining "No Increase in Pollution Load Certificate" in compliance of notification issued by Ministry of Environment Forest & Climate Change, Government of India, vide its notification no. S.O. 980(E) 2nd March, 2021.

That Ministry of Environment Forest & Climate Change, Government of India, vide its notification no. S.O. 980(E) 2nd March, 2021 exempted the requirement for prior Environmental Clearance for cases of change in raw material mix without change in the quantity and pollution load as prescribed in the Environmental clearance of the project. The said provisions made in notification dated 2nd March, 2021 are as below

Existing projects (having Prior Environmental Clearance) with no increase in pollution loads: Any increase in production capacity in respect of processing or production or manufacturing sectors (listed against item numbers 2, 3, 4 and 5 in the Schedule to this notification) with or without any change in (i) raw material-mix or (ii) quantities within products or (iii) number of products including new products falling in the same category or (iv) configuration of the plant or process or operations in existing area or in area contiguous to the existing area (for which prior environmental clearance has been granted) shall be exempt from the requirement of Prior Environmental Clearance provided that there is no increase in pollution load (derived on the basis of such Prior Environmental Clearance)

In compliance of the provisions of the notification no. S.O. 980(E) 2nd March, 2021, the applicant has submitted the the following documents

- 1. "No Increase In Pollution Load" certificate from the Environmental Auditor or reputed institutions empanelled by the State Pollution Control Board or Pollution Control Committee or Central Pollution Control Board or Ministry of Environment, Forest and Climate Change
- 2. Last Consent to Operate certificate for the project or activity.
- 3. 3. Online system generated acknowledgement of uploading of intimation and "No Increase In Pollution Load" certificate on PARIVESH Portal
- 4. Scan Copy of form only submitted for "No Increase In Pollution Load" certificate on PARIVESH Portal

After the examination of the documents submitted by the applicant "No Increase in Pollution Load Certificate" is hereby issued with the following observation and conditions with the approval of competent authority

Obervation and Conditions

The report regarding "No Increase in Pollution Load has been submitted by the Project Proponent, prepared by Environmental Auditor and NABET approved expert for distillery project .

The proposal submitted by Environmental Auditor and NABET approved expert has evaluated and concluded that the raw material mix shall be associated with following aspects related to pollution load.

I. The Project under consideration is for expansion of Distillery unit by M/s Wave Industries Pvt Ltd, Unit – Distillery at village- Malasia, Musallepur, Tehsil - Dhanaura, District – J.P. Nagar, Uttar Pradesh - 244231, due to use of alternative Feed Stock (B heavy Molasses / Sugar Syrup) from 100 KLD to 140 KLD in place of C-heavy molasses.

II. The raw material consumption will be reduced by 120 TPD during Mode 2 (B heavy Molasses) and reduce by 153 TPD during Mode 3 (Sugar Syrup) operation respectively against 40 % increase of production capacity as B-Heavy molasses and Sugar syrup has higher sugar percentage.

III. Unit will install CPU of capacity 1500 cubic meter/day, Reverse Osmosis System to enable recycling of MEE condensate, boiler blow down etc. in order to fulfill the needs of additional fresh water.

IV. No additional fresh water shall be required for B Heavy Molasses based operation. Although during sugar syrup based operation, fresh water requirement will be reduced from 620 KLD to 593 KLD.

V. Pollutant load like BOD, COD, TDS and TSS in effluent will be reduced during B Heavy Molasses and Sugar Syrup based operation.

VI. Total BOD load during C Heavy Molasses based operation is 81900 kg/day which will be reduced to 63840 Kg/day during B Heavy Molasses based operation and 45500 kg/day during Sugar syrup based operation.

VII. Total COD load during C Heavy Molasses based operation is 136500 kg/day which will be reduced to 106400 Kg/day during B Heavy Molasses based operation and 91000 kg/day during Sugar syrup based operation.

VIII. Total TDS load during C Heavy Molasses based operation is 91000 kg/day which will be reduced to 75285 Kg/day during B Heavy Molasses based operation and 70000 kg/day during Sugar syrup based operation.

IX. Total TSS load during C Heavy Molasses based operation is 8400 kg/day which will be reduced to 6895 Kg/day during B Heavy Molasses based operation and 5600 kg/day during Sugar syrup based operation.

X. Total generation of fly ash shall be reduced during Mode -2 (B- heavy molasses) and Mode -3 (Sugar syrup) based operation; reduction will be approx. -17.54 TPD and 28.28 TPD respectively.

XI. Spent wash generation will be same during B Heavy Molasses based operation and reduced by 15 KLD during Sugar syrup based operation. Total Pollutant load during B heavy Molasses and sugar syrup based operation will be reduced in comparison to C heavy Molasses based operation.

XII. Concentrated spent wash generation will be reduced during B - heavy Molasses based operation by 106 TPD and during Sugar Syrup based operation by 171 TPD.

XIII. There shall not be any incremental rise with respect to air pollution in view of the fact that Air Pollution Control System (Bag filters) shall keep particulate matter below 150 mg/Nm3.

XIV. Total emission load from the stack will be reduced with reduction in Slop quantity during B Heavy Molasses / Sugar Syrup based operation. Slop is having more solid and Sulphur content in comparison to Bagasse.

XV. Total PM Load during C Heavy Molasses based operation is 136.38 kg/day which will be reduced to 106.9 Kg/day during B Heavy Molasses based operation and 99.4 kg/day during Sugar syrup based operation.

XVI. Total NO2 load during C Heavy Molasses based operation is 126.3 kg/day which will be reduced to 124.9 Kg/day during B Heavy Molasses based operation and 122.08 kg/day during Sugar syrup based operation.

XVII. Total SO2 load during C Heavy Molasses based operation is 141.8 kg/day which will be reduced to 71.5 Kg/day during B Heavy Molasses based operation and 50.15 kg/day during Sugar syrup based operation.

XVIII. Unit will adopt Concentration followed by Incineration technology to achieve Zero Liquid Discharge and same will be done for B- heavy Molasses / sugar syrup based operation. Thus resulting in no increment with respect to water pollution.

Hence, in view of the above facts, the UPPCB is of the view that the project of Ethanol Capacity Expansion proposed by M/s Wave Industries Pvt Ltd, Unit – Distillery, at village- Malasia, Musallepur, Tehsil - Dhanaura, District – J.P. Nagar, Uttar Pradeshdue to use of alternative Feed Stock B heavy Molasses / Sugar Syrupas raw material shall result in "No Increase in Pollution Load", hence the project is recommended subject to the condition that the project is implemented strictly in accordance with the Technical details submitted by the proponent before the Board. The Project Proponent shall ensure strict compliance of the following conditions:

1. Due to change in raw material from C-Heavy molasses to B-Heavy molasses / Sugar Syrup based expansion of Ethanol production capacity from 100 KLD to 140 KLD shall result in No Increase in Pollution load subject to the condition that the project is implemented strictly in accordance with the technical details submitted by the Project Proponent in the Board.

2. The Project Proponent shall submit the validation report for B – Heavy Molasses / Sugar Syrup based 140 KLD Ethanol productions from any reputed Institute empaneled by UPPCB within 03 months after starting B-Heavy molasses / Sugar syrup based operation.

3. The unit shall restrict the spent wash storage capacity to 07 days only (B-Heavy molasses / Sugar Syrup).

- 4. The unit should submit monthly data of following to UPPCB:
 - a. Fresh water consumption
 - b. Ethanol Production
 - c. Spent wash generation
 - d. Slop generation
 - e. Condensate generation
 - f. Feed quantity of slop into incinerator
 - g. Yeast sludge generation
 - h. Boiler ash generation
 - i. Quantity of Spent lees generation, recycle/reuse and treatment in CPU
 - j. Quantity of effluent received into CPU, details of reuse/recycle etc.
 - k. Steam generation, fuel consumption

5. The unit shall ensure to obtain fresh consent (Water and Air) under the provision of Water (Prevention and control of Pollution) Act, 1974 and Air (Prevention and control of Pollution) Act, 1981 for the proposed production of 140KLD Alcohal from UPPCB before starting production of Alcohal based on B-Heavy molasses / Sugar syrup.

6. No industrial effluent shall be discharge from the factory premises.

7. The spent wash generated during use of raw material as B-heavy molasses/Sugar Syrup shall be consumed completely in the Slop Boiler.

8. Bio composting shall not be done in the industry.

Hence, in view of the above facts, the UPPCB is of the view that the project of Ethanol Capacity Expansion proposed by M/s Wave Industries Pvt Ltd, Unit – Distillery at village- Malasia, Musallepur, Tehsil - Dhanaura, District – J.P. Nagar, Uttar Pradeshdue to use of alternative feed stock B-heavy Molasses / Sugar Syrup as raw material shall result in "No Increase in Pollution Load" subject to the condition that the project is implemented strictly in accordance with the

Technical details submitted before the Board.

In view of the conclusion and remarks made by the Board, the unit is hereby directed to apply afresh for obtaining amended Consent to Operate under the provisions of Water (Prevention and Control of Pollution) Act, 1974 as amended and Air (Prevention and Control of Pollution) Act, 1981 as amended for the proposed production of 140 KLD Rectified Spirit/Extra Neutral Alcohol/Absolute Alcohal from B-heavy molasses / Sugar Syrup and also to comply with the conditions as above.

Chief Environmental Officer

(Circle-7)

Сору

Regional Officer, UPPCB, Bijnor with direction to monitor the compliance of the conditions.

Chief Environmental Officer

(Circle-7)

-State Level Environment Impact Assessment Authority, Uttar Pradesh

Directorate of Environment, U.P.

Vineet Khand-1, Gomti Nagar, Lucknow-226 010 Phone: 91-522-2300 541, Fax: 91-522-2300 543 E-mail: doeuplko@yahoo.com Website: www.seiaaup.com

To,

Shri D.S. Bindra, Director, M/s Wave Industries Pvt.Ltd, B-5, Sector-52, Noida, District- G.B. Nagar-244231

Ref. No. 401 /Parya/SEAC/5834-5510/2019

Date: S October, 2020

Sub: Environmental Clearance for Establishment of new Molasses / Cane Syrup based Distillery having Capacity: 100 KLD along with 7.0 MW co-gen power at Khasra No.- 108 in village Malasia, 8, 46, 47, 49, 59, 60, 61, 62, 63, 65, 70, 72 in Village-Musallepur, Tehsil - Dhanaura, District- J.P. Nagar, U.P, M/s Wave Industries Pvt. Ltd.

Dear Sir,

Please refer to your application/letters 13-02-2020, 19-05-2020, 15-09-2020 & 22-09-2020 addressed to the Chairman/Secretary, State Level Environment Impact Assessment Authority (SEIAA) and Director, Directorate of Environment Govt. of UP on the subject as above. The State Level Expert Appraisal Committee considered the matter in its meetings held on dated 23-09-2020 and SEIAA in its meeting dated 12-10-2020.

A presentation was made by the project proponent along with their consultant M/s Environmental & Technical Research Centre. The proponent, through the documents submitted and the presentation made informed the committee that:-

- The environmental clearance is sought for Establishment of new Molasses / Cane Syrup based Distillery having Capacity: 100 KLD along with 7.0 MW co-gen power at Khasra No.- 108 in village Malasia, 8, 46, 47, 49, 59, 60, 61, 62, 63, 65, 70, 72 in Village-Musallepur, Tehsil - Dhanaura, District- J.P. Nagar, U.P, M/s Wave Industries Pvt. Ltd.
- The terms of reference in the matter were issued by SEIAA, U.P. vide letter no. 167/Parya/SEAC/5510/2018 dated 30/06/2020.
- Public hearing was organized on 20/08/2020. Final EIA report submitted by the project proponent on 15/09/2020.

Sr. No.	Attributes	Proposed Distillery Unit
1	Proposed capacity of Plant	100 KLD (Molasses/Cane Syrup Based)
2	Co gen Power	7.0 MW
3	Total project area	17.75 Hectare
4	Total project cost	Rs. 17891.0 Lakhs
5	No of working days	365 Days /Annum
6	Raw material and its Quantity	Molasses /Cane Syrup-465 MT/Day. (214.4 Liters of Alcohol can be obtained 1 ton of molasses.)
7	Power Requirement	2860 KWH Source – Co Generation Power Plant-7.0 MW
8	Steam Requirement	28 TPH .
9	Man Power Requirement	Directly Employment : 55 nos. Indirect employment : 100 nos.
10	Fuel Requirement	SLOP : 300 KLD along with Bagasse : 150 TPD
11	Boiler Detail	Proposed : 01 no of 45 TPH (Slop fired boiler)
12	Fresh Water Requirement	Total Fresh Water requirement : 620 KLD Industrial Use: 600 KLD (@ 6.0 KL/KL of Product) Domestic Use: 20 KLD
13	Waste Water Generation	Spent Wash Generation-700 KLD
14	Treatment Technology	Spent wash will be concentrate in Multi effect evaporation and then concentration from MEE will be used as fuel in incineration

4. Salient features of the project:



	<u>U.P.</u>	M/s Wave industries Pvt. Ltd.					
		boiler of capacity 45 TPH along with bagasse/ other biomass. Other Effluent: Secondary effluent like MEE condensate and blow down, lees will be treated in Secondary ETP and reutilized in process and other use.					
15	Air Pollution Control Equipment Bag Filter along with Stack of height 72 Meters.						
5.	Land use details:						
Sr No	Land use	Area (sqm)	Area in %				
1	Roof Top	30505.0	17.2				
2	Green Belt	60000.0	33.8				
3	Road and Paved	21300.0	12.0				
4	Open area	65695.0	37.0				
	Grand Total	177500	100				

6. Raw material required with daily consumption and transport:

	Particular	Daily Requirements	Source of raw material & Mode of Transportation
1.	Molasses .	465 MT/ day	Adjacent sugar mills/ By road
2.	Others Chemicals Required		
	Sulphuric Acid	800.0 kg/Day	30.0 days storage will be provided and
	Sodium Hydrooxide (Caustic)	1600.0 Kg/Day	raw material will be transported
	Enzymes	6.0 kg/Day	through Tankers.
	NH ₂ -CO- NH ₃ (Nutrient : 46% N ₂)	340.0 Kg/Day	
	Antifoam Agent	120.0 Kg/Day	

7. Water requirement details:

Particular	Quantity	Remarks
Total Water Requirement	2669.0 KLD	Maximum frash water requirement of
Total treated and process water for recycling	2049.0 KLD	water in day will be 620 KLD.
Fresh Water Requirement	600.0 KLD	
Domestic water requirement	20.0 KLD	
Source of Fresh Water	Treated water from ETP of Sugar.	
Industrial Waste Water Generation (Spent wash)	760.0 KLD.	Spent wash will be concentrated in MEE and concentrated Slop will be used as fuel along with bagasse in 45 TPH boiler.
Domestic Wasta Water Generation	12.0 KLD	Domestic waste water will be disposed through septic tank and Soak pit
Other Effluent Generation	852 KLD	Secondary Effluent Treatment Plant will be constructed for the treatment of other effluent which include MEE condensate, Spent Lease, Floor washing, Reject, Blow downs etc.

Process	Waste		
S. No.	Solid waste	Quantity during Molasses based operation	Method of disposal
1	Fermenter . Sludge	10 MT/Day	Fermenter Sludge recovered from fermenter process will also be used 100 % as manure due to its good nutritive value

Hazardo	ous Waste Genera	ation and Management	
S. No.	Solid waste	Quantity	Method of disposal
1.	Used Oil	1100 Liters / Annum	The used oil will be Sold to the vendors authorised by UPPCB for the treatment of the same.
2.	Chemical Containers	-	Will be sent to TSDF

9. The project proposal falls under category 5 (g) of EIA Notification, 2006 (as amended).

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Based on the recommendations of the State Level Expert Appraisal Committee Meeting (SEAC) held on 23-09-2020 the State Level Environment Impact Assessment Authority (SEIAA) in its Meeting held 12-10-2020 and decided to grant the Environmental Clearance for proposed project along with subject to the effective implementation of the following general & specific conditions:-

- I. Statutory compliance:
 - 45 days monitoring report of the area for air quality, water quality, Noise level. Besides flora & fauna should be examined twice a week and be submitted within 60 days for a record.
 - The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.
 - 3. The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.
 - 4. The project proponent shall prepare a Site-Specific Conservation Plan & Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six - monthly compliance report. (in case of the presence of schedule-I species in the study area).
 - The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State pollution Control Board/ Committee.
 - The project proponent shall obtain authorization under the Hazardous and other Waste Management Rules, 2016 as amended from time to time.
 - The Company shall strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989 as amended time to time. All transportation of Hazardous Chemicals shall be as per the Motor Vehicle Act (MVA), 1989

II. Air quality monitoring and preservation:

- The project proponent shall install 24x7 continuous emission monitoring system at process stacks to monitor stack emission with respect to standards prescribed in Environment (Protection) Rules 1986 and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.
- 2. The project proponent shall install system carryout to Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM10 and PM2.s in reference to PM emission, and SO2 and NOx in reference to SQ2 and NOx emissions) within and outside the plant area at least at four locations (one within and three outside the plant area at an angle of 120° each), covering upwind and downwind direct ions. (case to case basis small plants: Manual; Large plants: Continuous).
- The project proponent shall submit monthly summary report of continuous stack emission and air quality monitoring and results of manual stack monitoring and manual monitoring of air quality /fugit ive emissions to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six- monthly monitoring report.
- Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed stack emission and fugitive emission standards.
- The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009 shall be complied with.
- Sulphur content should not exceed 0.5% in the coal for use in coal fired boilers to control particulate emissions within permissible limits (as applicable). The gaseous emissions shall be dispersed through stack of adequate height as per CPCB/SPCB guidelines.
- The DG sets shall be equipped with suitable pollution control devices and the adequate stack height so that the emissions are in conformity with the extant regulations and the guidelines in this regard.
- Storage of raw materials, coal etc shall be either stored in silos or in covered areas to prevent dust pollution and other fugitive emissions.

III. Water quality monitoring and preservation:

- For online continuous monitoring of effluent, the unit shall install web camera with night vision capability and flow meters in the channel/drain carrying effluent within the premises (applicable in case of the projects achieving ZLD) and connected to SPCB and CPCB online servers.
- 2. Zero Liquid Discharge shall be ensured and no waste/treated water shall be discharged outside the



premises (applicable in case of the projects achieving the ZLD). Process effluent /any wastewater shall not be allowed to mix with storm water. The storm water from

- the premises shall be collected and discharged through a separate conveyance system. 3. The effluent discharge shall conform to the standards prescribed under the Environment (Protection) Rules, 1986, or as specified by the State Pollution Control Board while granting Consent under the 4
- Total fresh water requirement shall not exceed the proposed quantity or as specified by the Committee. Prior permission shall be obtained from the concerned regulatory authority/CGWA in this 5.
- Industrial/trade effluent shall be segregated into High COD/TDS and Low COD/TDS effluent streams. High TDS/COD shall be passed through stripper followed by MEE and ATFD (agitated thin film drier). 6.
- Low TDS effluent stream shall be treated in ETP and then passed through RO system. The Company shall harvest rainwater from the roof tops of the buildings and storm water drains to
- recharge the ground water and utilize the same for different industrial operations within the plant. 7.
- IV. Noise monitoring and prevention:

Acoustic enclosure shall be provided to DG set for controlling the noise pollution.

- 2. The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of
- The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz. 75 dB(A) during day time and 70 dB(A) during night time. 3.
- V. Energy Conservation measures:
 - 1. The energy sources for lighting purposes shall preferably be LED based.
- VI.
- 1. Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm and the solvent transfer through pumps.
 - Process organic residue and spent carbon, if any, shall be sent to cement industries. ETP sludge, process inorganic & evaporation salt shall be disposed off to the TSDF. 2

 - 3. The company shall undertake waste minimization measures as below :-Metering and control of quantities of active ingredients to minimize waste .
 - Reuse of by-products from the process as raw materials or as raw material substitutes in other processes. 1
 - ii. Use of automated filling to minimize spillage.
 - iii. Use of Close Feed system into batch reactors.
 - Venting equipment through vapour recovery system. iv.
 - Use of high pressure hoses for equipment clearing to reduce wastewater generation V.
- VII. Green Belt:

vi.

- Green belt shall be developed in an area equal to 33% of the plant area with a native tree species in
- accordance with CPCB guidelines. The greenbelt shall inter alia cover the entire periphery of the plant. 1.
- Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and VIII. Safety, Public hearing and Human health issues: 1.
 - Disaster Management Plan shall be implemented. The PP shall provide Personal Protection Equipment (PPE) as per the norms of Factory Act.
 - 2.
 - Training shall be imparted to all employees on safety and health aspects of chemicals handling. Preemployment and routine periodical medical examinations for all employees shall be undertaken on 3. regular basis. Training to all employees on handling of chemicals shall be imparted.
 - Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be 4 removed after the completion of the project.
 - Occupational health surveillance of the workers shall be done on a regular basis and records 5.
 - There shall be adequate space inside the plant premises earmarked for parking of vehicles for raw materials and finished produc ts, and no parking to be allowed outside on public places 6.
 - IX. Corporate Environment Responsibility:

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- The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.
- 2. The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements /deviation/violation of the environmental / forest /wildli fe norms / conditions. The company shall have defined system of reporting infringements / deviation/ violation of the environmental/ forest / wildlife norms I conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
- A separate Environmental Cell both at the project and company head quarter level, with qualified
 personnel shall be set up under the control of senior Executive, who will directly to the head of the
 organization.
- 4. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
- Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

X. Miscellaneous:

- If the proposed project is situated in notified area of ground water extraction, where creation of new wells for ground water extraction is not allowed, requirement of fresh water shall be met from alternate water sources other than ground water or legally valid source and permission from the competent authority shall be obtained to use it.
- The project proponent shall ensure that the distillery shall be on ZLD basis with incineration of spent
 wash in slop boiler. As proposed treated waste water should be completely recycled /reused and ZLD
 should be achieved. Under no circumstances treated waste water and effluent shall be discharged to
 any drain/sewer line/ inland surface water/Nala etc.
- Directions/suggestions given during public hearing and commitment made by the project proponent should be strictly complied.
- 4. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
- 5. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
- The project proponent shall monitor the criteria pollutants level namely; PM10, SO2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.
- The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
- The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
- 10. The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.
- The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
- The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
- 13. No further expansion or modifications in the plant shall be carried out without prior approval of the

Ministry of Environment, Forests and Climate Change (MoEF&CC).

- Concealing factual data or submission of false /fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
- 16. The Ministry reserves the right to stipulate additional conditions if found necessary.
- 17. The Company in a time bound manner shall implement these conditions.
- The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
- 19. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.
- Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

Concealing factual data and information or submission of false/fabricated data and failure to comply with any of the conditions stipulated in the Prior Environmental Clearance attract action under the provision of Environmental (Protection) Act, 1986.

This Environmental Clearance is subject to ownership of the site by the project proponents in confirmation with approved Master Plan for G.B. Nagar. In case of violation; it would not be effective and would automatically be stand cancelled.

The project proponent has to ensure that the proposed site in not a part of any no- development zone as required/prescribed/indentified under law. In case of the violation this permission shall automatically deemed to be cancelled. Also, in the event of any dispute on ownership or land use of the proposed site, this Clearance shall automatically deemed to be cancelled.

The project proponent has to mandatorily submit the compliance of specific conditions no- 1, 3, 4 & 5 given in E.C. letter within 3 months, falling which the Clearance shall automatically deemed to be cancelled.

Further project proponent has to submit the regular 6 monthly compliance report regarding general & specific conditions as specified in the E.C. letter and comply the provision of EIA notification 2006 (as Amended).

These stipulations would be enforced among others under the provisions of Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and EIA Notification, 2006 including the amendments and rules made thereafter.



Dated: As above

No....../Parya/SEAC/5834-5510/2019 [Copy with enclosure for Information and necessary action to:

- 1. The Principal Secretary, Department of Environment, Govt. of Uttar Pradesh, Lucknow.
- Advisor, IA Division, Ministry of Environment, Forests & Climate Change, Govt. of India, Indira Paryavaran Bhawan, Jor Bagh Road, Aliganj, New Delhi.
- Additional Director, Regional Office, Ministry of Environment & Forests, (Central Region), Kendriya Bhawan, 5th Floor, Sector-H, Aliganj, Lucknow.
- 4. District Magistrate J.P. Nagar.
- The Member Secretary, U.P. Pollution Control Board, TC-12V, Paryavaran Bhawan, Vibhuti Khand, Gomti Nagar, Lucknow.
- 6. Copy to Web Master/ guard file.

(Ashish Tiwari) Member Secretary, SEIAA

SIX MONTHLY ENVIRONMENTAL MONITORING REPORTS

(THIRD PARTY)

(Against compliance of Environmental Clearance of Ministry of Environment, Forest and Climate Change)

- 1. Ambient Air Quality Monitoring Reports
- 2. Stack Analysis Report
- 3. Ambient Noise Monitoring Report
- 4. Ground Water Analysis Reports
- 5. Soil Sample Analysis Report

M/s Wave Industries Private Limited

Unit: Distillery

Village: Malasia, Musallepur, Tehsil: Dhanaura

District: Amroha (J.P. Nagar) U.P. - 244231

(April, 2023 to September, 2023)



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ETRC/PM09/TEST-REP/FT/45

TEST REPORT WATER & WASTE WATER ANALYSIS

Test Report Ref No.: ETRC/2004/12076/2023	Date of Report: 20/04/2023
Name /Address/Type of Industry	M/s Wave Industries Private Limited Unit: Distillery Village: Malasia, Musallepur, Tehsil: Dhanaura District: Amroha (J.P. Nagar) U.P 244231

SAMPLE DETAILS

1	Water/Waste Water	Ground Water	5	Packing Condition	Sealed
2	Sample Description	Borewell (Near Project Site)	6	Sample Collected By	Industry Self
3	Sample received date	14.04.2023	7	Analysis Start Date	14.04.2023
4	Sample Quantity	5.0 liters	8	Analysis End Date	19.04.2023

TEST RESULT

Sr. No	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing		Standard 00: 2012
					/limit of detection	Desirable	Permissible
			Physico-chemical Para	meters			
1	Colour	Hazen	IS: 3025 (Part-4): 1983 Reaffirmed: 2017	<5.0	5 - 30	5	15
2	Odour		IS: 3025 (Part-5): 1983 Reaffirmed: 2017	Agreeable	Qualitative	Agreeable	Agreeable
3	рН	-	APHA 23 rd Ed. 2017-4500 H ⁺	7.5	1 - 14	6.5-8.5	No Relaxation
4	Turbidity	NTU	APHA 23 rd Ed. 2017-2130 B	BDL	2 - 40	1	5
5	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 1984 Reaffirmed: 2017	388.6	10 - 5000	500	2000
6	Ammonia (as total ammonia-N)	mg/l	APHA 23 rd Ed. 2017-4500-NH ₃ F	BDL	0.5 - 2.0	0.5	No Relaxation
7	Anionic Detergents (as MBAS)	mg/l	APHA 23 rd Ed. 2017-5540 C	BDL	0.05 - 0.5	0.2	1.0
8	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	54.4	2.0 - 600	75	200
9	Magnesium as Mg	mg/l	APHA 23 rd Ed. 2017-3500 Mg, B	29.16	0.1 - 400	30	100
10	Chloride as Cl	mg/l	APHA 23rd Ed. 2017-4500-CI B	26.0	2.0 - 2000	250	1000
11	Fluoride as F	mg/l	APHA 23 rd Ed. 2017-4500 F ⁻ C	0.39	0.02 - 5.0	1.0	1.5
12	Free Residual Chlorine	mg/l	IS: 3025 (Part-26): 1986 Reaffirmed: 2019	BDL	0.1 - 5.0	0.2	1.0
13	Nitrate as NO ₃	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	BDL	1.0 - 70	45	No Relaxation
14	Phenolic Compound (as C ₆ H ₅ OH)	mg/l	APHA 23 rd Ed. 2017-5530 C	BDL	0.001- 0.005	0.001	0.002
	Sulphate as SO ₄	mg/l	APHA 23 rd Ed. 2017-4500- SO4 ²⁻	28.0	1.0 - 500	200	400
	Alkalinity as CaCO ₃	mg/l	APHA 23 rd Ed. 2017-2320 B	280.0	2.0 - 1000	200	600
	Total Hardness as CaCO ₃	mg/l	APHA 23 rd Ed. 2017-2340 C	256.0	5.0 - 800	200	600
18	Aluminium as Al	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.015 - 5.0	0.03	0.2
19	Boron as B	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 2.0	0.5	1.0
20	Copper as Cu	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5
21	Iron as Fe	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	0.12	0.05 - 20	0.3	No Relaxation

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Tes	st Report Ref No.: I	ETRC/20	04/12076/2023				
22	Manganese as Mn	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	0.06	0.02 - 5.0	0.1	0.3
23	Zinc as Zn	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	0.34	0.05 - 15	5	15
24	Cadmium as Cd	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 2.0	0.003	No Relaxation
25	Lead as Pb	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
26	Mercury as Hg	µg/l	APHA 23 rd Ed. 2017-3112 B	BDL	0.5 - 1000	1.0	No Relaxation
27	Nickel as Ni	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 5.0	0.02	No Relaxation
28	Arsenic as As	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.02 - 2.0	0.01	0.05
29	Total Chromium	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.03 - 5.0	0.05	No Relaxation
			Microbiological Param	neters			
30	E. coli	MPN/ 100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	≥ 2 MPN Present or Absent per 100 ml	Shall not be detected in any 100 ml sample	
31	T. coli	MPN/ 100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	≥ 2 MPN Present or Absent per 100 ml		e detected in any ml sample

BDL=Below Detection Limit

..... END OF REPORT......

ETRC warrants that all analytical work is conducted professionally in accordance with all applicable standard laboratory practices and that this data reflects our best
attempt to generate accurate results for the sample, mentioned in the report as above.

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Complain register is available in our laboratory.

Jerma-Authorized Signatory

(Sandeep Kr Verma) Lab-Incharge

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Authorized Signatory (Ritu Garg) QM

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ETRC/PM09/TEST-REP/FT/45

TEST REPORT WATER & WASTE WATER ANALYSIS

Test Report Ref No.: ETRC/2405/12077/2023 Date of Report: 24/05/2023 Name /Address/Type of Industry M/s Wave Industries Private Limited Unit: Distillery Village: Malasia, Musallepur, Tehsil: Dhanaura District: Amroha (J.P. Nagar) U.P. - 244231

SAMPLE DETAILS

1	Water/Waste Water	Ground Water	5	Packing Condition	Sealed
2	Sample Description	Borewell (Near Project Site)	6	Sample Collected By	Industry Self
3	Sample received date	18.05.2023	7	Analysis Start Date	18.05.2023
4	Sample Quantity	5.0 liters	8	Analysis End Date	23.05.2023

TEST RESULT

Sr.	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing	Indian Standard 10500: 2012	
No					/limit of detection	Desirable	Permissible
			Physico-chemical Para	meters	0		
1	Colour	Hazen	IS: 3025 (Part-4): 1983 Reaffirmed: 2017	<5.0	5 - 30	5	15
2	Odour	-	IS: 3025 (Part-5): 1983 Reaffirmed: 2017	Agreeable	Qualitative	Agreeable	Agreeable
3	рН	-	APHA 23 rd Ed. 2017-4500 H ⁺	7.5	1 - 14	6.5-8.5	No Relaxation
4	Turbidity	NTU	APHA 23 rd Ed. 2017-2130 B	BDL	2 - 40	1	5
5	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 1984 Reaffirmed: 2017	406.2	10 - 5000	500	2000
6	Ammonia (as total ammonia-N)	mg/l	APHA 23 rd Ed. 2017-4500-NH ₃ F	BDL	0.5 - 2.0	0.5	No Relaxation
7	Anionic Detergents (as MBAS)	mg/l	APHA 23 rd Ed. 2017-5540 C	BDL	0.05 - 0.5	0.2	1.0
8	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	59.2	2.0 - 600	75	200
9	Magnesium as Mg	mg/l	APHA 23 rd Ed. 2017-3500 Mg, B	32.076	0.1 - 400	30	100
10	Chloride as Cl	mg/l	APHA 23 rd Ed. 2017-4500-Cl ⁻ B	30.0	2.0 - 2000	250	1000
11	Fluoride as F	mg/l	APHA 23 rd Ed. 2017-4500 F C	0.36	0.02 - 5.0	1.0	1.5
12	Free Residual Chlorine	mg/l	IS: 3025 (Part-26): 1986 Reaffirmed: 2019	BDL	0.1 - 5.0	0.2	1.0
13	Nitrate as NO ₃	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	BDL	1.0 - 70	45	No Relaxation
14	Phenolic Compound (as C₅H₅OH)	mg/l	APHA 23 rd Ed. 2017-5530 C	BDL	0.001- 0.005	0.001	0.002
15	Sulphate as SO ₄	mg/l	APHA 23 rd Ed. 2017-4500- SO42-	30.0	1.0 - 500	200	400
16	Alkalinity as CaCO ₃	mg/l	APHA 23 rd Ed. 2017-2320 B	300.0	2.0 - 1000	200	600
17	Total Hardness as CaCO ₃	mg/l	APHA 23rd Ed. 2017-2340 C	280.0	5.0 - 800	200	600
18	Aluminium as Al	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.015 - 5.0	0.03	0.2
19	Boron as B	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 2.0	0.5	1.0
20	Copper as Cu	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5
21	Iron as Fe	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	0.09	0.05 - 20	0.3	No Relaxation

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Tes	st Report Ref No.: I	ETRC/24					
22	Manganese as Mn	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	0.03	0.02 - 5.0	0.1	0.3
23	Zinc as Zn	mg/i	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	0.46	0.05 - 15	5	15
24	Cadmium as Cd	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 2.0	0.003	No Relaxation
25	Lead as Pb	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
26	Mercury as Hg	µg/l	APHA 23 rd Ed. 2017-3112 B	BDL	0.5 - 1000	1.0	No Relaxation
27	Nickel as Ni	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 5.0	0.02	No Relaxation
28	Arsenic as As	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.02 - 2.0	0.01	0.05
29	Total Chromium	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.03 - 5.0	0.05	No Relaxation
			Microbiological Param	neters			
30	E. coli	MPN/ 100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	≥ 2 MPN Present or Absent per 100 ml		e detected in any ml sample
31	T. coli Below Detection Limit	MPN/ 100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	≥ 2 MPN Present or Absent per 100 ml		e detected in any ml sample

BDL=Below Detection Limit

..... END OF REPORT......

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verma .. Authorized Signatory (Sandeep Kr Verma) Lab-Incharge



Zilvi-yarg

Authorized Signatory (Ritu Garg) QM



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ETRC/PM09/TEST-REP/FT/45

TEST REPORT WATER & WASTE WATER ANALYSIS

Test Report Ref No.: ETRC/2106/12078/2023	Date of Report: 21/06/2023
Name /Address/Type of Industry	M/s Wave Industries Private Limited
	Unit: Distillery
	Village: Malasia, Musallepur, Tehsil: Dhanaura
	District: Amroha (J.P. Nagar) U.P 244231

SAMPLE DETAILS

1	Water/Waste Water	Ground Water	5	Packing Condition	Sealed
2	Sample Description	Borewell (Near Project Site)	6	Sample Collected By	Industry Self
3	Sample received date	16.06.2023	7	Analysis Start Date	16.06.2023
4	Sample Quantity	5.0 liters	8	Analysis End Date	20.06.2023

TEST RESULT

Sr.	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing	Indian Standard 10500: 2012	
No					/limit of detection	Desirable	Permissible
	ſ		Physico-chemical Para	meters			
1	Colour	Hazen	IS: 3025 (Part-4): 1983 Reaffirmed: 2017	<5.0	5 - 30	5	15
2	Odour	-	IS: 3025 (Part-5): 1983 Reaffirmed: 2017	Agreeable	Qualitative	Agreeable	Agreeable
3	pН	-	APHA 23 rd Ed. 2017-4500 H ⁺	7.4	1 - 14	6.5-8.5	No Relaxation
4	Turbidity	NTU	APHA 23 rd Ed. 2017-2130 B	BDL	2 - 40	1	5
5	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 1984 Reaffirmed: 2017	412.0	10 - 5000	500	2000
6	Ammonia (as total ammonia-N)	mg/l	APHA 23 rd Ed. 2017-4500-NH ₃ F	BDL	0.5 - 2.0	0.5	No Relaxation
7	Anionic Detergents (as MBAS)	mg/l	APHA 23 rd Ed. 2017-5540 C	BDL	0.05 - 0.5	0.2	1.0
8	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	60.8	2.0 - 600	75	200
9	Magnesium as Mg	mg/l	APHA 23 rd Ed. 2017-3500 Mg, B	31.10	0.1 - 400	30	100
10	Chloride as Cl	mg/l	APHA 23rd Ed. 2017-4500-CI B	24.0	2.0 - 2000	250	1000
11	Fluoride as F	mg/l	APHA 23 rd Ed. 2017-4500 F ⁻ C	0.38	0.02 - 5.0	1.0	1.5
12	Free Residual Chlorine	mg/l	IS: 3025 (Part-26): 1986 Reaffirmed: 2019	BDL	0.1 - 5.0	0.2	1.0
13	Nitrate as NO ₃	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	BDL	1.0 - 70	45	No Relaxation
14	Phenolic Compound (as C ₆ H ₅ OH)	mg/l	APHA 23 rd Ed. 2017-5530 C	BDL	0.001- 0.005	0.001	0.002
15	Sulphate as SO ₄	mg/l	APHA 23 rd Ed. 2017-4500- SO4 ²⁻	26.0	1.0 - 500	200	400
16	Alkalinity as CaCO ₃	mg/l	APHA 23 rd Ed. 2017-2320 B	308.0	2.0 - 1000	200	600
17	Total Hardness as CaCO ₃	mg/l	APHA 23 rd Ed. 2017-2340 C	280.0	5.0 - 800	200	600
18	Aluminium as Al	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.015 - 5.0	0.03	0.2
19	Boron as B	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 2.0	0.5	1.0
20	Copper as Cu	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5
21	Iron as Fe	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	0.13	0.05 - 20	0.3	No Relaxation

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Test Report Ref No.: ETRC/2106/12078/2023

22	Manganese as Mn	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	0.04	0.02 - 5.0	0.1	0.3
23	Zinc as Zn	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	0.38	0.05 - 15	5	15
24	Cadmium as Cd	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 2.0	0.003	No Relaxation
25	Lead as Pb	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
26	Mercury as Hg	µg/l	APHA 23 rd Ed. 2017-3112 B	BDL	0.5 - 1000	1.0	No Relaxation
27	Nickel as Ni	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 5.0	0.02	No Relaxation
28	Arsenic as As	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.02 - 2.0	0.01	0.05
29	Total Chromium	mg/i	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.03 - 5.0	0.05	No Relaxation
			Microbiological Paran	neters			
30	E. coli	MPN/ 100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	≥ 2 MPN Present or Absent per 100 ml		e detected in any ml sample
31	T. coli Below Detection Limit	MPN/ 100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	≥ 2 MPN Present or Absent per 100 ml		e detected in any ml sample

BDL=Below Detection Limit

..... END OF REPORT......

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Verman Authorized Signatory (Sandeep Kr Verma) Lab-Incharge



2: In your



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ETRC/PM09/TEST-REP/FT/45

TEST REPORT WATER & WASTE WATER ANALYSIS

Test Report Ref No.: ETRC/1907/12079/2023	Date of Report: 19/07/2023
Name /Address/Type of Industry	M/s Wave Industries Private Limited
	Unit: Distillery
	Village: Malasia, Musallepur, Tehsil: Dhanaura
	District: Amroha (J.P. Nagar) U.P 244231

SAMPLE DETAILS

1	Water/Waste Water	Ground Water	5	Packing Condition	Sealed
2	Sample Description	Borewell (Near Project Site)	6	Sample Collected By	Industry Self
3	Sample received date	13.07.2023	7	Analysis Start Date	13.07.2023
4	Sample Quantity	5.0 liters	8	Analysis End Date	18.07.2023

TEST RESULT

Sr.	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing		Indian Standard 10500: 2012	
No				Rooun	/limit of detection	Desirable	Permissible	
			Physico-chemical Para	meters				
1	Colour	Hazen	IS: 3025 (Part-4): 1983 Reaffirmed: 2017	<5.0	5 - 30	5	15	
2	Odour	-	IS: 3025 (Part-5): 1983 Reaffirmed: 2017	Agreeable	Qualitative	Agreeable	Agreeable	
3	рН	-	APHA 23 rd Ed. 2017-4500 H ⁺	7.5	1 - 14	6.5-8.5	No Relaxation	
4	Turbidity	NTU	APHA 23 rd Ed. 2017-2130 B	BDL	2 - 40	1	5	
5	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 1984 Reaffirmed: 2017	402.8	10 - 5000	500	2000	
6	Ammonia (as total ammonia-N)	mg/l	APHA 23 rd Ed. 2017-4500-NH ₃ F	BDL	0.5 - 2.0	0.5	No Relaxation	
7	Anionic Detergents (as MBAS)	mg/l	APHA 23 rd Ed. 2017-5540 C	BDL	0.05 - 0.5	0.2	1.0	
8	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	56.0	2.0 - 600	75	200	
9	Magnesium as Mg	mg/l	APHA 23 rd Ed. 2017-3500 Mg, B	31.10	0.1 - 400	30	100	
10	Chloride as Cl	mg/l	APHA 23rd Ed. 2017-4500-CI B	26.0	2.0 - 2000	250	1000	
11	Fluoride as F	mg/l	APHA 23 rd Ed. 2017-4500 F ⁻ C	0.40	0.02 - 5.0	1.0	1.5	
12	Free Residual Chlorine	mg/l	IS: 3025 (Part-26): 1986 Reaffirmed: 2019	BDL	0.1 - 5.0	0.2	1.0	
13	Nitrate as NO ₃	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	BDL	1.0 - 70	45	No Relaxation	
14	Phenolic Compound (as C ₆ H₅OH)	mg/ł	APHA 23 rd Ed. 2017-5530 C	BDL	0.001- 0.005	0.001	0.002	
15	Sulphate as SO ₄	mg/l	APHA 23 rd Ed. 2017-4500- SO4 ²⁻	30.0	1.0 - 500	200	400	
16	Alkalinity as CaCO ₃	mg/l	APHA 23 rd Ed. 2017-2320 B	296.0	2.0 - 1000	200	600	
17	Total Hardness as CaCO ₃	mg/l	APHA 23 rd Ed. 2017-2340 C	268.0	5.0 - 800	200	600	
18	Aluminium as Al	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.015 - 5.0	0.03	0.2	
19	Boron as B	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 2.0	0.5	1.0	
20	Copper as Cu	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5	
21	Iron as Fe	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	0.14	0.05 - 20	0.3	No Relaxation	

Page 1 of 1



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Test Report Ref No.: ETRC/1907/12079/2023

Manganese as Mn	mg/l	(ICP-OES)	0.06	0.02 - 5.0	0.1	0.3
Zinc as Zn	mg/i	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	0.56	0.05 - 15	5	15
Cadmium as Cd	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 2.0	0.003	No Relaxation
Lead as Pb	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
Mercury as Hg	µg/l	APHA 23rd Ed. 2017-3112 B	BDL	0.5 - 1000	1.0	No Relaxation
Nickel as Ni	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 5.0	0.02	No Relaxation
Arsenic as As	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.02 - 2.0	0.01	0.05
Total Chromium	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.03 - 5.0	0.05	No Relaxation
		Microbiological Param	neters			
E. coli	MPN/ 100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	≥ 2 MPN Present or Absent per 100 mł		e detected in any ml sample
T. coli Below Detection Limit	MPN/ 100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	≥ 2 MPN Present or Absent per 100 mi		e detected in any ml sample
	Zinc as Zn Cadmium as Cd Lead as Pb Mercury as Hg Nickel as Ni Arsenic as As Total Chromium E. coli T. coli	Zinc as Znmg/lCadmium as Cdmg/lLead as Pbmg/lMercury as Hgµg/lNickel as Nimg/lArsenic as Asmg/lTotal Chromiummg/lE. coliMPN/ 100 mlT. coliMPN/ 100 ml	Zinc as Zn mg/l APHA 23 rd Ed. 2017-3120 B (ICP-OES) Cadmium as Cd mg/l APHA 23 rd Ed. 2017-3120 B (ICP-OES) Lead as Pb mg/l APHA 23 rd Ed. 2017-3120 B (ICP-OES) Mercury as Hg µg/l APHA 23 rd Ed. 2017-3120 B (ICP-OES) Mickel as Ni mg/l APHA 23 rd Ed. 2017-3120 B (ICP-OES) Arsenic as As mg/l APHA 23 rd Ed. 2017-3120 B (ICP-OES) Total Chromium mg/l APHA 23 rd Ed. 2017-3120 B (ICP-OES) E. coli MPN/ 100 ml IS: 1622 - 1981 Reaffirmed: 2019 T. coli MPN/ 100 ml IS: 1622 - 1981 Reaffirmed: 2019	Manganese as Minmg/l(ICP-OES)0.06Zinc as Znmg/lAPHA 23 rd Ed. 2017-3120 B (ICP-OES)0.56Cadmium as Cdmg/lAPHA 23 rd Ed. 2017-3120 B (ICP-OES)BDLLead as Pbmg/lAPHA 23 rd Ed. 2017-3120 B (ICP-OES)BDLMercury as Hgµg/lAPHA 23 rd Ed. 2017-3112 BBDLNickel as Nimg/lAPHA 23 rd Ed. 2017-3120 B (ICP-OES)BDLArsenic as Asmg/lAPHA 23 rd Ed. 2017-3120 B (ICP-OES)BDLTotal Chromiummg/lAPHA 23 rd Ed. 2017-3120 B (ICP-OES)BDLE. coliMPN/ 100 mlIS: 1622 - 1981 Reaffirmed: 2019Absent	Manganese as Min mg/l (ICP-OES) 0.06 0.02 - 5.0 Zinc as Zn mg/l APHA 23 rd Ed. 2017-3120 B (ICP-OES) 0.56 0.05 - 15 Cadmium as Cd mg/l APHA 23 rd Ed. 2017-3120 B (ICP-OES) BDL 0.05 - 2.0 Lead as Pb mg/l APHA 23 rd Ed. 2017-3120 B (ICP-OES) BDL 0.01 - 10 Mercury as Hg µg/l APHA 23 rd Ed. 2017-3120 B (ICP-OES) BDL 0.56 - 1000 Nickel as Ni mg/l APHA 23 rd Ed. 2017-3120 B (ICP-OES) BDL 0.05 - 5.0 Arsenic as As mg/l APHA 23 rd Ed. 2017-3120 B (ICP-OES) BDL 0.02 - 2.0 Total Chromium mg/l APHA 23 rd Ed. 2017-3120 B (ICP-OES) BDL 0.03 - 5.0 E. coli MPN/ 100 ml IS: 1622 - 1981 Reaffirmed: 2019 Absent ≥ 2 MPN Present or Absent per 100 ml * 2. of MPN/ 100 ml IS: 1622 - 1981 Reaffirmed: 2019 Absent ≥ 2 MPN Present or Absent per 100 ml	Mariganese as Mn Img/l (ICP-OES) 0.06 0.02 - 5.0 0.1 Zinc as Zn mg/l APHA 23 rd Ed. 2017-3120 B (ICP-OES) 0.56 0.05 - 15 5 Cadmium as Cd mg/l APHA 23 rd Ed. 2017-3120 B (ICP-OES) BDL 0.05 - 2.0 0.003 Lead as Pb mg/l APHA 23 rd Ed. 2017-3120 B (ICP-OES) BDL 0.01 - 10 0.01 Mercury as Hg µg/l APHA 23 rd Ed. 2017-3120 B (ICP-OES) BDL 0.05 - 1000 1.0 Nickel as Ni mg/l APHA 23 rd Ed. 2017-3120 B (ICP-OES) BDL 0.05 - 5.0 0.02 Arsenic as As mg/l APHA 23 rd Ed. 2017-3120 B (ICP-OES) BDL 0.02 - 2.0 0.01 Total Chromium mg/l APHA 23 rd Ed. 2017-3120 B (ICP-OES) BDL 0.03 - 5.0 0.05 Microbiological Parameters E. coli MPN/ 100 ml IS: 1622 - 1981 Reaffirmed: 2019 Absent Present or Absent per 100 ml Shall not be 100 ml T. coli MPN/ 100 ml IS: 1622 - 1981 Reaffirmed: 2019 Absent Shall not be 100 ml

BDL=Below Detection Limit

..... END OF REPORT.....

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100000 Authorized Signatory (Sandeep Kr Verma) Lab-Incharge



Ribi yarg

Authorized Signatory (Ritu Garg) QM

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ETRC/PM09/TEST-REP/FT/45

TEST REPORT WATER & WASTE WATER ANALYSIS

Test Report Ref No.: ETRC/2308/12080/2023 Date of Report: 23/08/2023 Name /Address/Type of Industry M/s Wave Industries Private Limited Unit: Distillery Village: Malasia, Musallepur, Tehsil: Dhanaura District: Amroha (J.P. Nagar) U.P. - 244231

SAMPLE DETAILS

1	Water/Waste Water	Ground Water	5	Packing Condition	Sealed
2	Sample Description	Borewell (Near Project Site)	6	Sample Collected By	Industry Self
3	Sample received date	17.08.2023	7	Analysis Start Date	17.08.2023
4	Sample Quantity	5.0 liters	8	Analysis End Date	22.08.2023

TEST RESULT

Sr.	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing		Standard 0: 2012	
No	restratameter	Onic			/limit of detection	Desirable	Permissible	
			Physico-chemical Para	meters				
1	Colour	Hazen	IS: 3025 (Part-4): 1983 Reaffirmed: 2017	<5.0	5 - 30	5	15	
2	Odour	-	IS: 3025 (Part-5): 1983 Reaffirmed: 2017	Agreeable	Qualitative	Agreeable	Agreeable	
3	рН	-	APHA 23 rd Ed. 2017-4500 H ⁺	7.4	1 - 14	6.5-8.5	No Relaxation	
4	Turbidity	NTU	APHA 23 rd Ed. 2017-2130 B	BDL	2 - 40	1	5	
5	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 1984 Reaffirmed: 2017	390.6	10 - 5000	500	2000	
6	Ammonia (as total ammonia-N)	mg/l	APHA 23 rd Ed. 2017-4500-NH ₃ F	BDL	0.5 - 2.0	0.5	No Relaxation	
7	Anionic Detergents (as MBAS)	mg/l	APHA 23 rd Ed. 2017-5540 C	BDL	0.05 - 0.5	0.2	1.0	
8	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	54.4	2.0 - 600	75	200	
9	Magnesium as Mg	mg/l	APHA 23 rd Ed. 2017-3500 Mg, B	31.10	0.1 - 400	30	100	
10	Chloride as Cl	mg/l	APHA 23 rd Ed. 2017-4500-CI ⁻ B	28.0	2.0 - 2000	250	1000	
11	Fluoride as F	mg/l	APHA 23 rd Ed. 2017-4500 F ⁻ C	0.36	0.02 - 5.0	1.0	1.5	
12	Free Residual Chlorine	mg/l	IS: 3025 (Part-26): 1986 Reaffirmed: 2019	BDL	0.1 - 5.0	0.2	1.0	
13	Nitrate as NO ₃	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	BDL	1.0 - 70	45	No Relaxation	
14	Phenolic Compound (as C ₆ H ₅ OH)	mg/l	APHA 23 rd Ed. 2017-5530 C	BDL	0.001- 0.005	0.001	0.002	
15	Sulphate as SO ₄	mg/l	APHA 23 rd Ed. 2017-4500- SO4 ²⁻	26.0	1.0 - 500	200	400	
16	Alkalinity as CaCO ₃	mg/l	APHA 23 rd Ed. 2017-2320 B	292.0	2.0 - 1000	200	600	
17	Total Hardness as CaCO ₃	mg/l	APHA 23 rd Ed. 2017-2340 C	264.0	5.0 - 800	200	600	
18	Aluminium as Al	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.015 - 5.0	0.03	0.2	
19	Boron as B	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 2.0	0.5	1.0	
20	Copper as Cu	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5	
21	Iron as Fe	mg/i	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	0.12	0.05 - 20	0.3	No Relaxation	

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Tes	st Report Ref No.:	ETRC/23	08/12080/2023				
22	Manganese as Mn	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	0.05	0.02 - 5.0	0.1	0.3
23	Zinc as Zn	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	0.43	0.05 - 15	5	15
24	Cadmium as Cd	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 2.0	0.003	No Relaxation
25	Lead as Pb	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
26	Mercury as Hg	µg/l	APHA 23 rd Ed. 2017-3112 B	BDL	0.5 - 1000	1.0	No Relaxation
27	Nickel as Ni	mg/i	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 5.0	0.02	No Relaxation
28	Arsenic as As	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.02 - 2.0	0.01	0.05
29	Total Chromium	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.03 - 5.0	0.05	No Relaxation
			Microbiological Param	eters			
30	E. coli	MPN/ 100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	≥ 2 MPN Present or Absent per 100 ml		e detected in any ml sample
31	T. coli	MPN/ 100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	≥ 2 MPN Present or Absent per 100 ml		e detected in any mi sample

BDL=Below Detection Limit

..... END OF REPORT......

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arma Authorized Signatory

(Sandeep Kr Verma) Lab-Incharge

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Rili yarg Authorized Signatory

(Ritu Garg) QM



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ETRC/PM09/TEST-REP/FT/42

TEST REPORT AMBIENT AIR QUALITY MONITORING REPORT

Test	Report Ref No.: ETRC/2509/12081/2023	Date of Report: 25/09/	2023		
Name /Address/Type of Industry Monitored by		M/s Wave Industries Private Limited Unit: Distillery Village: Malasia, Musallepur, Tehsil: Dhanaura District: Amroha (J.P. Nagar) U.P 244231			
		ETRC, Lucknow			
Locat	tion of Sampling point	Near Main Gate			
Sr. No.	GENERAL OBSERVATIONS	DETAILS-PM ₁₀	DETAILS-PM _{2.5}		
1(a)	Weather conditions	Clear	Clear		
(b)	Wind direction	West to East	West to East		
(C)	Average humidity (%)	52	52		
(d)	Average ambient temperature (°C)	30	30		
(e)	Time of Sampling Started (Hours)	11:19 am (18.09.2023)	11:19 am (18.09.2023)		
(f)	Time of Sampling completed (Hours)	11:06 am (19.09.2023)	11:06 am (19.09.2023)		
(g)	Total time of sampling (Minutes)	24 hour (1415 minutes)	24 hour (1415 minutes)		
2	Average sampling rate for PM (m ³ /minute)	1.155	NA		
3	Average sampling rate for gas (LPM)	0.5	NA		
4	TOTAL VOLUME OF AIR SAMPLED				
	• PM (m ³)	• 1634.787	• 23.589		
	GAS (liter)	• 707.7			

TEST RESULT

Sr. No.	Particulars	Protocol	Unit	Re <mark>su</mark> lt	Range of testing /limit of detection	Standard as per NAAQS; dated 18/11/ 2009
1	Particulate matters size less than 10 µm (PM ₁₀)	IS: 5182 (Part-23): 2006 Reaffirmed: 2022	µg/m ³	83.2	5.0 - 1200	For 24 hour =100
2	Particulate matters size less than 2.5 μm (PM _{2.5})	IS: 5182 (Part-24): 2019	µg/m³	52.99	2.0 - 500	For 24 hour =60
3	Sulphur Dioxide (SO ₂)	IS: 5182 (Part-02): 2001 Reaffirmed: 2022	µg/m³	14.62	5.0 - 1050	For 24 hour =80
4	Oxides of Nitrogen (NO _X)	IS: 5182 (Part-06): 2006 Reaffirmed: 2022	µg/m³	21.17	6.0 - 750	For 24 hour =80

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ETRC/PM09/TEST-REP/FT/42

TEST REPORT AMBIENT AIR QUALITY MONITORING REPORT

	Report Ref No.: ETRC/2509/12082/2023	Date of Report: 25/09/	2023		
Name /Address/Type of Industry Monitored by		M/s Wave Industries Private Limited Unit: Distillery Village: Malasia, Musallepur, Tehsil: Dhanaura District: Amroha (J.P. Nagar) U.P 244231			
		ETRC, Lucknow			
Locat	tion of Sampling point	At Admin Building			
Sr. No.	GENERAL OBSERVATIONS	DETAILS-PM10	DETAILS-PM _{2.5}		
1(a)	Weather conditions	Clear	Clear		
(b)	Wind direction	West to East	West to East		
(C)	Average humidity (%)	52	52		
(d)	Average ambient temperature (°C)	30	30		
(e)	Time of Sampling Started (Hours)	11:25 am (18.09.2023)	11:25 am (18.09.2023)		
(f)	Time of Sampling completed (Hours)	11:16 am (19.09.2023)	11:16 am (19.09.2023)		
(g)	Total time of sampling (Minutes)	24 hour (1421 minutes)	24 hour (1421 minutes)		
2	Average sampling rate for PM (m ³ /minute)	1.160	NA		
3	Average sampling rate for gas (LPM)	0.5	NA		
4	TOTAL VOLUME OF AIR SAMPLED				
	• PM (m ³)	 1648.128 	• 23.682		
	GAS (liter)	• 710.4			

TEST RESULT

Sr. No.	Particulars	Protocol	Unit	Result	Range of testing /limit of detection	Standard as per NAAQS; dated 18/11/ 2009
1	Particulate matters size less than 10 µm (PM ₁₀)	IS: 5182 (Part-23): 2006 Reaffirmed: 2022	µg/m³	80. <mark>2</mark>	5.0 - 1200	For 24 hour =100
2	Particulate matters size less than 2.5 µm (PM _{2.5})	IS: 5182 (Part-24): 2019	µg/m³	49.40	2.0 - 500	For 24 hour =60
3	Sulphur Dioxide (SO ₂)	IS: 5182 (Part-02): 2001 Reaffirmed: 2022	µg/m³	13.69	5.0 - 1050	For 24 hour =80
4	Oxides of Nitrogen (NO _X)	IS: 5182 (Part-06): 2006 Reaffirmed: 2022	µg/m³	20.17	6.0 - 750	For 24 hour =80

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ETRC/PM09/TEST-REP/FT/42

TEST REPORT AMBIENT AIR QUALITY MONITORING REPORT

Test	Report Ref No.: ETRC/2509/12083/2023	Date of Report: 25/09/	2023		
	e /Address/Type of Industry	M/s Wave Industries Private Limited Unit: Distillery Village: Malasia, Musallepur, Tehsil: Dhanaura District: Amroha (J.P. Nagar) U.P 244231			
Moni	tored by	ETRC, Lucknow			
Locat	tion of Sampling point	Village: Kasampur Shun	nali		
Sr. No.	GENERAL OBSERVATIONS	DETAILS-PM ₁₀	DETAILS-PM _{2.5}		
1(a)	Weather conditions	Clear	Clear		
(b)	Wind direction	West to East	West to East		
(C)	Average humidity (%)	55	55		
(d)	Average ambient temperature (°C)	31	31		
(e)	Time of Sampling Started (Hours)	11:25 am (19.09.2023)	11:25 am (19.09.2023)		
(f)	Time of Sampling completed (Hours)	11:13 am (20.09.2023)	11:13 am (20.09.2023)		
(g)	Total time of sampling (Minutes)	24 hour (1412 minutes)	24 hour (1412 minutes)		
2	Average sampling rate for PM (m ³ /minute)	1.155	NA		
3	Average sampling rate for gas (LPM)	0.5	NA		
4	 TOTAL VOLUME OF AIR SAMPLED PM (m³) GAS (liter) 	1630.629705.9	• 23.429		

TEST RESULT

Sr. No.	Particulars	Protocol	Unit	Re <mark>su</mark> lt	Range of testing /limit of detection	Standard as per NAAQS; dated 18/11/ 2009
1	Particulate matters size less than 10 µm (PM ₁₀)	IS: 5182 (Part-23): 2006 Reaffirmed: 2022	µg/m ³	78. <mark>6</mark>	5.0 - 1200	For 24 hour =100
2	Particulate matters size less than 2.5 µm (PM _{2.5})	IS: 5182 (Part-24): 2019	µg/m³	46.52	2.0 - 500	For 24 hour =60
3	Sulphur Dioxide (SO ₂)	IS: 5182 (Part-02): 2001 Reaffirmed: 2022	µg/m ³	12.73	5.0 - 1050	For 24 hour =80
4	Oxides of Nitrogen (NO _X)	IS: 5182 (Part-06): 2006 Reaffirmed: 2022	µg/m³	18.88	6.0 - 750	For 24 hour =80

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ETRC/PM09/TEST-REP/FT/42

TEST REPORT AMBIENT AIR QUALITY MONITORING REPORT

Test	Report Ref No.: ETRC/2509/12084/2023	Date of Report: 25/09/	2023		
Name /Address/Type of Industry Monitored by		M/s Wave Industries Private Limited Unit: Distillery Village: Malasia, Musallepur, Tehsil: Dhanaura District: Amroha (J.P. Nagar) U.P 244231			
		ETRC, Lucknow			
Locat	tion of Sampling point	Village: Isapur Shumali			
Sr. No.	GENERAL OBSERVATIONS	DETAILS-PM ₁₀	DETAILS-PM _{2.5}		
1(a)	Weather conditions	Clear	Clear		
(b)	Wind direction	West to East	West to East		
(C)	Average humidity (%)	55	55		
(d)	Average ambient temperature (°C)	31	31		
(e)	Time of Sampling Started (Hours)	11:40 am (19.09.2023)	11:40 am (19.09.2023)		
(f)	Time of Sampling completed (Hours)	11:23 am (20.09.2023)	11:23 am (20.09.2023)		
(g)	Total time of sampling (Minutes)	24 hour (1420 minutes)	24 hour (1420 minutes)		
2	Average sampling rate for PM (m ³ /minute)	1.130	NA		
3	Average sampling rate for gas (LPM)	0.5	NA		
4	 TOTAL VOLUME OF AIR SAMPLED PM (m³) GAS (liter) 	1604.826710.1	• 23.671		

TEST RESULT

Sr. No.	Particulars	Protocol	Unit	Result	Range of testing /limit of detection	Standard as per NAAQS; dated 18/11/ 2009
1	Particulate matters size less than 10 µm (PM ₁₀)	IS: 5182 (Part-23): 2006 Reaffirmed: 2022	µg/m ³	7 <mark>7.6</mark>	5.0 - 1200	For 24 hour =100
2	Particulate matters size less than 2.5 µm (PM _{2.5})	IS: 5182 (Part-24): 2019	µg/m³	47.32	2.0 - 500	For 24 hour =60
3	Sulphur Dioxide (SO ₂)	IS: 5182 (Part-02): 2001 Reaffirmed: 2022	µg/m³	12.99	5.0 - 1050	For 24 hour =80
4	Oxides of Nitrogen (NO _X)	IS: 5182 (Part-06): 2006 Reaffirmed: 2022	µg/m³	17.43	6.0 - 750	For 24 hour =80

..... END OF REPORT.....

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Nerong Authorized Signatory (Sandeep Kr Verma) Lab-Incharge



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ETRC/PM09/TEST-REP/FT/43

TEST REPORT STACK EMISSION MONITORING AND ANALYSIS REPORT

Test	Report Ref No.: ETRC/2509/12085/2023	Date of Report: 25/09/2023
Name /Address/Type of Industry Monitored by		M/s Wave Industries Private Limited Unit: Distillery Village: Malasia, Musallepur, Tehsil: Dhanaura District: Amroha (J.P. Nagar) U.P 244231
		ETRC, Lucknow
Sr. No.	GENERAL INFORMATION	DETAILS
1.(a)	Date of monitoring	18.09.2023
(b)	Stack material	RCC
(C)	Height of stack from ground level	85.0 mts
(d)	Source to which stack attached	Boiler
(e)	No of boiler attached with capacity	01 No. (45.0 TPH)
(f)	Type and quantity of fuel used	Slop & Bagasse
(g)	Details of APCS installed	Bag Filters
2.	PARAMETERS	VALUES
(a)	Ambient temperature (°C)	36.0
(b)	Stack gas temperature (°C)	130.0
(C)	Stack gas velocity (m/sec)	11.84
(d)	Flow rate (LPM)	17
(e)	Sampling time (minutes)	60
(f)	Volume of air sampled (liters)	1020

TEST RESULT

Sr. No.	Parameter	Unit	Protocol	Result	Range of Testing / Limit of Detection	Standard (as per CPCB)
1	Particulate Matter	mg/Nm ³	IS: 11255 (Part-1): 1985 Reaffirmed: 2019	44.12	2.0 - 1000	50

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Authorized Signatory

Authorized Signatory (Ritu Garg) QM



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ETRC/PM09/TEST-REP/FT/44

TEST REPORT AMBIENT NOISE MONITORING AND ANALYSIS REPORT

Test Re	eport Ref No.: ETRC/2509/12086/2023	Date of Report: 25/09/2023
Name /Address/Type of Industry		M/s Wave Industries Private Limited Unit: Distillery Village: Malasia, Musallepur Tehsil: Dhanaura District: Amroha (J.P. Nagar) U.P 244231
Monitor	ed by	ETRC, Lucknow
Sr. No.	GENERAL INFORMATION	DETAILS
(a)	Date of monitoring	19/09/2023 (06:00 AM) to 20/09/2023 (06:00 AM)
(b)	Sample Description	Ambient Noise
(c)	Sampling Location	Near Project Site
(d)	Environmental Condition	Normal
(e)	Monitoring Protocol	IS: 9989: 1981, Reaffirmed: 2020

TEST RESULT

Ambient Noise Level					
Sr. No.	Parameter	Unit	Results Day Time (06:00 AM - 10:00 PM)	Results Night Time (10:00 PM - 06:00 AM)	
1	Equivalent sound level	dB(A)	61.23	48.52	

	Noise Standards as per CPC	B Schedule rule 3(1)	and 4(1)		
Area Code	Catagoni of Area/Zana	Limits in dB(A) Leg			
Alea Coue	Category of Area/Zone	Day Time	Night Time 70		
A	Industrial Area	75			
В	Commercial Area	65	55		
С	Residential Area	55	45		
D	Silence Zone	50	40		

..... END OF REPORT......

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- Complain register is available in our laboratory.

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Authorized Signatory (Ritu Garg) QM



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ETRC/PM09/TEST-REP/FT/45

TEST REPORT WATER & WASTE WATER ANALYSIS

Test Report Ref No.: ETRC/2509/12087/2023 Date of Report: 25/09/2023 Name /Address/Type of Industry M/s Wave Industries Private Limited Unit: Distillery Village: Malasia, Musallepur, Tehsil: Dhanaura District: Amroha (J.P. Nagar) U.P. - 244231

SAMPLE DETAILS

1	Water/Waste Water	Ground Water	5	Packing Condition	Sealed
2	Sample Description	Borewell (Near Project Site)	6	Sample Collected By	ETRC
3	Sample received date	20.09.2023	7	Analysis Start Date	20.09.2023
4	Sample Quantity	5.0 liters	8	Analysis End Date	25.09.2023

TEST RESULT

Sr.	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit of	Indian Standard 10500: 2012	
No				Result		Desirable	Permissible
_			Physico-chemical Para	meters			-
1	Colour	Hazen	IS: 3025 (Part-4): 1983 Reaffirmed: 2017	<5.0	5 - 30	5	15
2	Odour	-	IS: 3025 (Part-5): 1983 Reaffirmed: 2017	Agreeable	Qualitative	Agreeable	Agreeable
3	рН	-	APHA 23 rd Ed. 2017-4500 H ⁺	7.5	1 - 14	6.5-8.5	No Relaxation
4	Turbidity	NTU	APHA 23 rd Ed. 2017-2130 B	BDL	2 - 40	1	5
5	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 1984 Reaffirmed: 2017	388. <mark>6</mark>	10 - 5000	500	2000
6	Ammonia (as total ammonia-N)	mg/l	APHA 23 rd Ed. 2017-4500-NH ₃ F	BDL	0.5 - 2.0	0.5	No Relaxation
7	Anionic Detergents (as MBAS)	mg/l	APHA 23 rd Ed. 2017-5540 C	BDL	0.05 - 0.5	0.2	1.0
8	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	54.4	2.0 - 600	75	200
9	Magnesium as Mg	mg/l	APHA 23 rd Ed. 2017-3500 Mg, B	28.18	0.1 - 400	30	100
10	Chloride as Cl	mg/l	APHA 23rd Ed. 2017-4500-CI B	30.0	2.0 - 2000	250	1000
11	Fluoride as F	mg/l	APHA 23rd Ed. 2017-4500 F C	0.37	0.02 - 5.0	1.0	1.5
12	Free Residual Chlorine	mg/l	IS: 3025 (Part-26): 1986 Reaffirmed: 2019	BDL	0.1 - 5.0	0.2	1.0
13	Nitrate as NO ₃	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	BDL	1.0 - 70	45	No Relaxation
14	Phenolic Compound (as C ₆ H ₅ OH)	mg/l	APHA 23 rd Ed. 2017-5530 C	BDL	0.001- 0.005	0.001	0.002
15	Sulphate as SO ₄	mg/l	APHA 23 rd Ed. 2017-4500- SO4 ²⁻	26.0	1.0 - 500	200	400
16	Alkalinity as CaCO ₃	mg/l	APHA 23 rd Ed. 2017-2320 B	284.0	2.0 - 1000	200	600
17	Total Hardness as CaCO ₃	mg/l	APHA 23 rd Ed. 2017-2340 C	252.0	5.0 - 800	200	600
18	Aluminium as Al	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.015 - 5.0	0.03	0.2
19	Boron as B	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 2.0	0.5	1.0
20	Copper as Cu	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5
21	Iron as Fe	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	0.15	0.05 - 20	0.3	No Relaxation

Page 1 of 1



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Tes	st Report Ref No.:	ETRC/25	09/12087/2023				
22	Manganese as Mn	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	0.03	0.02 - 5.0	0.1	0.3
23	Zinc as Zn	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	0.55	0.05 - 15	5	. 15
24	Cadmium as Cd	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 2.0	0.003	No Relaxation
25	Lead as Pb	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
26	Mercury as Hg	µg/I	APHA 23 rd Ed. 2017-3112 B	BDL	0.5 - 1000	1.0	No Relaxation
27	Nickel as Ni	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.05 - 5.0	0.02	No Relaxation
28	Arsenic as As	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.02 - 2.0	0.01	0.05
29	Total Chromium	mg/l	APHA 23 rd Ed. 2017-3120 B (ICP-OES)	BDL	0.03 - 5.0	0.05	No Relaxation
			Microbiological Param	neters			
30	E. coli	MPN/ 100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	≥ 2 MPN Present or Absent per 100 mi	Shall not be detected in any 100 ml sample	
31	T. coli Below Detection Limit	MPN/ 100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	≥ 2 MPN Present or Absent per 100 ml	Shall not be detected in an 100 ml sample	

.=Below Detection Limit

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(Sandeep Kr Verma) Lab-Incharge

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Authorized Signatory (Ritu Garg) QM



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ETRC/PM09/TEST-REP/FT/46

TEST REPORT SOIL ANALYSIS

Test Report Ref No.: ETRC/2509/12088/2023 Date of Report: 25/09/2023 Name /Address/Type of Industry M/s Wave Industries Private Limited Unit: Distillery Village: Malasia, Musallepur, Tehsil: Dhanaura District: Amroha (J.P. Nagar) U.P. - 244231

SAMPLE DETAILS

1	Sampling Location	Near Project site	5	Packing Condition	Sealed	
2	Sample Description	Soil Sample	6	Sample Collected By	ETRC	
3	Sample received date	20.09.2023	7	Analysis Start Date	20.09.2023	
4	Sample Quantity	500 gm	8	Analysis End Date	25.09.2023	

TEST REPORT

Sr. No.	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit of detection
1	рН	-	IS: 2720 (Part-26):1987 Reaffirmed:2021	7.3	1 - 14
2	Electrical Conductivity	µmhos/cm	IS: 14767:2000 Reaffirmed:2021	314.0	1 - 40000
3	Moisture content	%	IS :2720 (Part -2):1973 Reaffirmed:2020	3.06	1.0 - 50
4	Nitrate as N	kg/Hec	Method Manual of Soil Testing in India	274.6	5.0 - 500
5	Phosphorus as P_2O_5	kg/Hec	Method Manual of Soil Testing in India	24.0	1.0 - 2000
6	Potash as K ₂ O	kg/Hec	Method Manual of Soil Testing in India	116.8	1.0 - 2000
7	Sulphur	mg/kg	IS: 14685: 1999 Reaffirmed:2019	13.2	5.0 - 100
8	Boron	mg/kg	Method Manual of Soil Testing in India	1.26	1.0 - 100
9	Copper	mg/kg	Method Manual of Soil Testing in India	0.78	0.3 - 500
10	Zinc	mg/kg	Method Manual of Soil Testing in India	2.36	1.0 - 500
11	Iron	mg/kg	Method Manual of Soil Testing in India	98.5	5.0 - 500
12	Manganese	mg/kg	Method Manual of Soil Testing in India	9.6	5.0 - 500

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