# **Dhampur Bio Organics Limited**



Date: 31.05.2024

To,

The Director Ministry of Environment, Forest & Climate Change Kendriya Bhawan, 5<sup>th</sup> Floor, Sector "H" Aliganj Lucknow (Uttar Pradesh)

Subject: Six Monthly Compliance Report of Environmental Clearance for Expansion of Molasses Based Distillery From 100 KLPD to 250 KLPD by M/s Dhampur Bio Organics Limited Unit Asmoli Division Bio fuels & Sprits (Formerly Known as Dhampur Sugar Mills Limited), at Village: Asmoli, Tehsil & District: Sambhal Uttar Pradesh for the period of October, 2023 to March, 2024. Currently unit is operating production capacity i.e. 350 KLD on B Heavy Molasses based operation or 375 KLD on Cane Juice Syrup based operation with No Increase in Pollution Load Certificate.

EC Ref. No: J-11011/224/2007-IA II (I), dated 29.01.2019

Reg: Submission of Six-Monthly Compliance Report for Period of October, 2023 to March, 2024.

Dear Sir,

This is in connection to above mentioned subject we are hereby submitting the six-monthly compliance report of the conditions of Environmental Clearance for Expansion of Molasses Based Distillery From 100 KLPD to 250 KLPD by M/s Dhampur Bio Organics Limited Unit Asmoli Division Bio fuels & Sprits (Formerly Known as Dhampur Sugar Mills Limited), at Village: Asmoli, Tehsil & District: Sambhal Uttar Pradesh for the period of October, 2023 to March, 2024 along with annexures as follows:

- 1. Annexure 01: Copy of CTO (Air and Water),
- 2. Annexure 02: Copy of No increase in Pollution load certificate
- 3. Annexure 03: Copy of Environmental Clearance
- 4. Annexure 04: HWM Certificate
- 5. Annexure 05: Test Report
- 6. Annexure 06: Copy of UPGWD NOC
- 7. Annexure 07: Photographs of Green Belt
- 8. Annexure 08: Employee health status report

Requesting you to accept soft copy reports submitted for information please.

Thanking you,

Yours sincerely

Authorized Signatory

M/s Dhampur Bio Organics Limited

Unit Asmoli Division Bio fuels & Sprits

(Formerly Known as Dhampur Sugar Mills Limited),

at Village: Asmoli, Tehsil & District: Sambhal Uttar Pradesh

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# SIX-MONTHLY ENVIRONMENTAL COMPLIANCE REPORT OF STIPULATED CONDITIONS OF ENVIRONMENTAL CLEARANCE

(October, 2023 to March, 2024)

# For

# EXPANSION OF MOLASSES BASED DISTILLERY FROM 100 KLPD TO 250 KLPD

at

VILLAGE: ASMOLI, TEHSIL & DISTRICT: SAMBHAL UTTAR PRADESH

For Submission to:
Ministry of Environment, Forest & Climate Change
(Regional Office, Lucknow)

Submitted By:

M/s Dhampur Bio Organics Limited

Unit Asmoli Division Bio fuels & Sprits

(Formerly Known as Dhampur Sugar Mills Limited)

EC Compliance October, 2023 to March, 2024

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# CHAPTER No. 01: INTRODUCTION AND PROJECT DESCRIPTION

Six monthly environmental compliance/status report is submitted for Expansion of Molasses based distillery from 100 KLPD to 250 KLPD by M/s Dhampur Bio Organics Limited Unit Asmoli Division Bio fuels & Sprits (formerly Known as Dhampur Sugar Mills Limited) for October, 2023 to March, 2024. The Project is located at village: Asmoli, Tehsil & District: Sambhal Uttar Pradesh. Prior Environment Clearance was obtained from MoEF wide letter no.: F. No. J-11011/224/2007-IA II (I), dated 29.01.2019. Consolidated Consent to operate for Air & Water has been already obtained for the project Vide Ref No. 174913/UPPCB/Moradabad(UPPCBRO)/CTO/both/ SAMBHAL/2023 dated 30/01/2023 valid up to 31/12/2024. Copy of CTO is attached here as Annexure-1.

Unit also obtained No objection certificate for "No increase in pollution load" of Distillery capacity 350 KLD on B Heavy Molasses based operation or 375 KLD on Cane Juice Syrup based operation from UPPCB by Ref. No. 177/UPHOC7/EIA/SAMBHAL/2023 dated 06/01/2023 Copy is attached here as Annexure-2.

Environmental mitigation measures described in Environmental Management Plan are being implemented operation phase. M/s Dhampur Bio Organics Limited Unit Asmoli Division Bio fuels & Sprits (formerly Known as Dhampur Sugar Mills Limited) management team is fully conscious about Environmental Management and enhancing green belt development in project surrounding area.

Six monthly compliance/status reports for **October**, **2023 to March**, **2024** for conditions stipulated in the Environmental Clearance letter issued by MoEF are enclosed as **Annexure-3**. Photographs view of implemented mitigation measures are also attached for the ready reference as Photo Documentation.

# CHAPTER No. 02: COMPLIANCE OF STIPULATED CONDITIONS OF ENVIRONMENTAL CLEARANCE

**Name of the Project:** Molasses based Distillery of 100 KLPD to 250 KLPD at village: Asmoli, Tehsil & District: Sambhal Uttar Pradesh by M/s Dhampur Bio Organics Limited Unit Asmoli Division Bio fuels & Sprits (formerly Known as Dhampur Sugar Mills Limited).

Clearance Letter No: F.No. J-11011/224/2007-IA II (I), dated 29.01.2019

**Period of Compliance Report:** (October, 2023 to March, 2024)

#### **Environment Clearance conditions:**

<u>En</u>	Environment Clearance conditions:			
Sr. No.	Conditions	Compliance Status		
1.	Consent to Establish/ Operate for the project shall be obtained from the state Pollution Control Board as required under the air (Prevention and Control of Pollution) Act, 1981 and the water (Prevention and Control of Pollution) Act. 1974.	The Unit has obtained the CTO for the project from UPPCB for Both (Air & Water) – 174913 / UPPCB / Moradabad (UPPCBRO)/CTO/both/ SAMBHAL / 2023 Dated - 30.01.2023.  Copy attached as <b>Annexure No1</b>		
2.	As already committed by the project proponent, Zero Liquid Discharge shall be ensured and no waste/Treated water shall be discharged outside premises.	The Unit is Adequate the condition of Zero Liquid Discharge & No waste/Treated water discharge outside the premises.		
3.	Necessary authorization required under the hazardous and other wastes (Management and Trans boundary Movement) Rules, 2016, solid waste management rules, 2016 shall be obtained and the provisions contained in the rules shall be strictly adhered to.	The unit has obtained hazardous and other wastes (Management and Trans-Boundary Movement) Rules 2016 from UPPCB vide No. 14112/UPPCB/Moradabad(UPPCBRO)/HWM/B HIM NAGAR/2021 Dated :02/06/2021 Copy attached as <b>Annexure No4</b>		
4.	To control source and the fugitive emission, suitable pollution control devices shall be installed to meet the prescribed norms and/or the NAAQS. The gaseous emission shall be dispersed through stack of adequate height as per CPCB/SPCB guidelines.	35 TPH Boiler High efficiency bag filter with 70 mtr. height stack & 45 TPH Boiler (ESP) with 77 mtr. Height stack are installed. Quality of SPM has been maintained below 50 mg/Nm <sup>3</sup> . Boiler Stack Analysis Report is Attached as <b>Annexure-5</b>		
5.	Total fresh water requirement shall not exceed 2000 cum/day proposed to be met from ground water. Prior permission shall be obtained from the concerned regulatory authority/CGWA in this regard.	Adequate as per UPGWD Guidelines & Permission has been obtained from UPGWD vide no AUTHORIZATION/ NO-OBJECTION CERTIFICAT NO: NOC042562 Copy attached as <b>Annexure-6</b> .		
6.	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.	The Unit has a separate area for Hazardous Chemicals. Hazardous waste is being stored in drums and provided to TSDF for further disposal.		
7.	Process organic residue and spent carbon,	Not Applicable		

	if any shall be sent to cement industries	
	ETP Sludge, process inorganic &	
	evaporation salt shall be disposed off to the	
	TSDF.	
8.	The Company shall strictly comply with	Point is noted. Unit obtained the PESO license for
	the rules and guidelines under Manufacture	Ethanol storage.
	Storage and import of Hazardous chemical	
	(MSIHC) Rules, 1989 as amended time to	
	time all transportation of Hazardous	
	chemicals shall be as per the Motor	
	Vehicle Act (MVA), 1989.	
9.	The company shall undertake was	
	minimization measures as below	
	(i) Metering and control of quantities of	Metering is being provided at necessary place to
	active ingredients to minimize waste.	minimize the waste.
	(ii) Reuse of by products from the process	Point is noted.
	as raw materials substitutes in other	
	processes.	
	(iii)Use of automated filling to minimize	Point is noted.
	spillage.	
	(iv) Use of close feed system into batch	Use of close feed system into batch reactors is
	reactors.	being practiced.
	(v) Venting equipment through vapors	Complied
	recovery systems	
	(vi) Use of high-pressure hoses for	Complied.
	equipment clearing to reduced waste	
	water generation.	
10.	The green belt of 5-10 m width shall be	Provision of green belt of total plant area has
	developed in more than 33% of the total	already been taken and plantation is being done as
	project area mainly along the plant	per CPCB guideline & DFO advice. We have
	periphery, in downward wind direction,	planted species of Neem, Pipal, Mango, Guava,
	and along road sides etc. selection of plant	Eucalyptus and Ficus etc. with consultation of
	species shall be as per the CPCB	local DFO.
	guidelines in consultation with the state	Unit planted approx 6000 saplings in 2000 squre
	Forest Department.	meter area by Miyawaki Method.
	•	Photographs of greenbelt attached as Annexure-
		7.
11.	All the commitments made regarding issue	All suggestions were Implemented.
	raised during the public	
	hearing/consultation meeting shall be	
	satisfactory implemented.	
12	At least 0.75% of the total project cost	Unit being conducted various activities under
	shall be allocated for Corporate	CER i.e. construction of ponds in nearby villages
	Environment Responsibility (CER) and	and spent 51.75 Lac Rupees in the financial Year
	Item wise details along with time bound	2022-2023.
	action plan shall be prepared and submitted	
13.	to the Ministry's Regional Office.	
13.	For the DG Sets, emission limits and the	Adequate stack height has been provided and
13.		Adequate stack height has been provided and acoustic enclosure are provided to control the
13.	For the DG Sets, emission limits and the	
13.	For the DG Sets, emission limits and the stack height shall be in conformity with the	acoustic enclosure are provided to control the
13.	For the DG Sets, emission limits and the stack height shall be in conformity with the extant regulations and the CPCB	acoustic enclosure are provided to control the noise pollution. Emission from the DG set stack

14.	The unit shall make the arrangement for	The unit already make the arrangement for		
14.	protection of possible fire hazards during	protection of possible fire hazards during		
	manufacturing process in material	manufacturing process in material handling.		
	handling. Firefighting system shall be as	Firefighting system has been provided as per the		
	per the norms.	norms.		
15.	Occupational has surveillance of the	The Unit has own dispensary where a qualified &		
	workers shall be done on a regular basis &	experienced doctor posted for take care of		
	records maintained as per the factories act.	employees and maintaining health record of t		
		employee. Also conducting the health camps in		
		villages and for serious cases, One Vehicle is also		
		available round the clock for taking immediate		
		action in transferring the patients to nearby		
		hospitals in the city.		
		Employee health status report attached as <b>Annexure-8</b> .		
16.	Storage of raw materials shall be either	Molasses is the raw material which is being stored		
10.	stored in silos or in covered areas to	in tanks. Bagasse is being stored in covered shed.		
	prevent dust pollution and other fugitive	in tanks. Dagasse is being stored in covered siled.		
	emission.			
17.	Continuous Online (24x7) monitoring	Continuous Online (24x7) monitoring system for		
	system for stack emissions shall be	stack emissions has been installed and the data		
	installed for measurement of flue gas	already transmitted to CPCB and SPCB server for		
	discharge and the pollutants concentration,	online continuous monitoring.		
	and the data to be transmitted to CPCB and	The unit has been installed web camera with night		
	SPCB server for online continuous	vision capability & data transmitted to SPCB		
	monitoring of effluent, the unit shall install	Online Server for Continue Monitoring.		
	web camera with night vision capability	Also, Mass flow meters at Inlet & Outlet of		
	and flow meters in the channel/drain	effluent within the premises.		
10	carrying effluent within the premises.	90 TDD CO Because Blant work almost		
18.	CO2 generated from the process shall be bottled/made solid ice and sold to	80 TPD CO <sub>2</sub> Recovery Plant work almost completed & ready to be commissioning.		
	authorized vendors	completed & ready to be commissioning.		
19.	There shall adequate space inside the plant	Condition noted and complied.		
	premises earmarked for parking of vehicles	1		
	for raw materials and finished products,			
	and no parking to be allowed outside on			
	public places.			
		CONDITION		
1.	The Project authorities must strictly adhere	The Unit will strictly adhere to the stipulations		
	to the stipulations made by the state	made by the Uttar Pradesh State Pollution Control		
	Pollution Control Board (SPCB), State	Board, the State Government and any other		
	Government and/or any other statutory	statuary authority.		
2.	authority.  No further expansion or modifications in	No further expansion or modification job will be		
4.	the plant shall be carried out without prior	taken up without prior approval of MOEF & CC.		
	approval of the Ministry of Environment,	taken up without prior approvar of WOLF & CC.		
	forest and Climate Change. In case of			
	deviation of alteration in the project			
	proposal from those submitted to this			
	ministry for clearance, a fresh reference			
	shall be made to the ministry to assess the			
	adequacy of conditions imposed and to add			
	additional environmental protection			
	measure required, if any.			

3.	The locations of ambient air quality monitoring stations shall be decided in consultation with the State Pollution Control Board (SPCB) and it shall be ensured that at least one stations each is installed in the upwind and downwind direction as well as where maximum ground level concentrations are anticipated.	Air quality monitoring stations has been set up in consideration of maximum ground level concentration of SPM, SO <sub>2</sub> , and NO <sub>X</sub> in consultation with SPCB.  Analysis Reports are Attached as <b>Annexure-5</b> .
4.	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.	Ambient air quality monitoring is being done within premises and results were found within NAAQS 2009. Analysis Reports are Attached as <b>Annexure-5</b> .
5.	The Overall Noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hools, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under EPA,1986 Rules, 1989 Viz 75 DBA (day time) & 70 dB A (Night time)	Noise control measures has already been placed and enclosures would be put to keep the noise level will within the 85 dB A and ambient level below 70 dB A (day time) and 65 dB A (night time).  Analysis Report are Attached as <b>Annexure-5</b> .
6.	The Company shall harvest rainwater from the roof tops of the buildings and storm water drains to recharge the ground water and utilized the same for industrial operations within the plant.	The Company has been adopted three recharge ponds in nearby villages and shafts has been constructed in the ponds. The total recharge from these 3 ponds works out to be 2,45,955 M <sup>3</sup> /Year.
7.	Training shall be imparted to all employees on Safety and Health aspects of Chemicals Handling. Pre-employment and routine periodical medical examination for all employees shall be undertaken on regular basis.	The Unit has well defined training programs. The desired medical records of each employee are also maintained.
8.	The Company Shall Comply with all the environmental protection measures and safe guards proposed in the documents submitted to the ministry. All the recommendations made in the EIA/EMP in respect of Environmental Management, Risk mitigation measures and public hearing shall be implemented.	The project proponent are complying with all the environmental protection majors & safe guards recommended in the EIA / EMP report.
9.	The Company shall undertake all measures for improving socio-economic conditions of the surrounding area. CSR Activities shall be undertaken by involving local villagers administrations and other stakeholders. Also eco developmental measures shall be under taken for overall improvement of the environment.	The CSR Activities are finalized at the Corporate Level. The Unit at Asmoli is also part of CSR activities as per provision of Companies Act. The unit is undertaking all measures for improving socio-economic conditions of masses in surrounding area. CSR activities have undertaken by involving local villagers administrations and other stakeholders. The unit has undertaken Eco Development measures for overall improvement.
10.	A separate environmental management cell equipped with full-fledged laboratory facilities shall be setup to carry out the	A separate environmental cell equipped with full-fledged laboratory facilities has been set up to carry out the environmental management &

	anvironmental management and	monitoring functions
	environmental management and monitoring functions.	monitoring functions.
11.	The Company shall earmarks sufficient	The project authorities are providing requites
11.	funds towards capital cost & recurring cost	funds for both recurring & non-recurring
	per annum to implement the conditions	expenditure to implement the conditions
	stipulated by the ministry of environment,	stipulated by the Ministry of Environmental &
	Forest & Climate Change as well as the	Forest as well as the state government along with
	State Government along with the	the implementation schedule for all the conditions
	implementation schedule for all the	stipulated herein.
	conditions stipulated herein, the fund show	Soft William 1975
	earmark for environment management,	
	pollution control measures shall not be	
	diverted for any other purpose.	
12.	A copy of the clearance letter shall be sent	The unit has shared a copy of the Environmental
	by the project proponent to concerned	Clearance (EC) To the concerned Panchayat, Zila
	Panchayat, Zila Parishad, Municipal	Parishad, Municipal corporation, Urban Local
	Corporation, Urbon Local Body and the	Body and the Local NGO, No suggestion or
	Local NGO, if any from home suggestions,	Representations have been received.
	representation, if any, were received by	
L	processing the proposal.	
13.	The Project Proponent shall also submit six	The six-monthly reports on the status of
	monthly reports on the status of	compliance of the stipulated environmental
	compliance of the stipulated environmental	clearance conditions including results of
	clearance conditions including results of	monitored data to the respective Regional Office
	monitored data (Both in the hard copy as	of MOEF & CC, the respective zonal office of
	well email) to the respective regional	CPCB & SPCB has been sent regularly basis.
	office of MOEF & CC, the respective	
	zonal office of CPCB & SPCB. A copy of	
	Environment Clearance & Six-Monthly	
	Compliance Status report shall be posted	
1.4	on the website of the company.  The Environmental Statement for each	The unit will be submitting the Environmental
14.		The unit will be submitting the Environmental
	financial year ending 31 <sup>st</sup> March in Form-V as is mandated shall be submitted to the	Statement for each financial year ending 31st March in Form-V as a mandated to the concerned
	concerned State Pollution Control Board as	State Pollution Control Board as Prescribed under
	prescribed under the Environment	the Environmental (Protection) Rules 1986 as
	(Protection) Rules 1986 as amended	amended subsequently. The same shall also be put
	subsequently, shall also be put on the	on the website of the company along with the
	website of the company along with the	status of compliance of Environmental Clearance
	status of compliance of Environmental	condition & shall also be sent to the Respective
	Clearance conditions & shall also be sent	Regional Office of MOEF & CC and SPCB.
	to the Respective Regional Office of	-
L	MOEF & CC by email.	
15.	The Project Proponent shall inform the	The Environment Clearance Details has been
	public that the project has been accorded	already published in two local newspapers for
	environmental clearance by the ministry	public information. The copy of same has been
	and copy of the clearance letter are	already sent to Regional Office of the Ministry.
	available with the SPCB /Committee and	
	may also be same at website of the	
	ministry at http://moef.nic.in this shall be	
	advertised within seven days from the date	
	of issue of the clearance letter, at least in	
	two newspapers that are widely circulated	
	in the region of which one shall be in the	

vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned Regional office of the Ministry.	
The Ministry reserves the right to stipulate additional conditions, if found necessary at subsequent stages and the project proponent shall implement all the said conditions in a time bound manner. The Ministry may revoke or suspend the environmental clearance, if implementation of any of the above conditions is not found satisfactory.	Condition noted.
The above conditions will be enforced, inter-alia under the provisions of the water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Water Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Hazardous Waste (Management Handling and trans-Boundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991, read with subsequent amendments therein	Condition noted.

EC Compliance October, 2023 to March, 2024

# 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; Near Main Gate, near Boiler, Near Gahre ki madaiya & Near Village Asmoli of the Near project site. This will enable to have a comparative analytical understanding about air quality and to access 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**.

Table-3.1:
Details of Ambient Air Quality Monitoring Stations

Sr. No	<b>Location Code</b>	Location Name/ Description	Environmental Setting of Surrounding	
	AAQ - 1	Near Main Gate	Industrial	
1.	AAQ - 2	Near Boiler	Industrial	
2.	AAQ - 3	Near Gahre ki madaiya	Residential	
3.	AAQ - 4	Near Village Asmoli	Residential	

# AAQ - 1: Near Main Gate

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

### AAQ - 2: Near Boiler

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

### AAQ - 3: Near Gahre ki madaiya

The sampler was placed Near Gahre ki madaiya and was free from any obstructions. Surroundings of the sampling site represent residential environmental setting.

# AAQ - 4: Near Village Asmoli

The sampler was placed near Near Village Asmoli 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 (PM<sub>10</sub>)
- Fine Particulate Matter (PM<sub>2.5</sub>)
- Sulphur Dioxide (SO<sub>2</sub>)
- Oxides of Nitrogen (NO<sub>X</sub>)

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 Indian Standards (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  $SO_2$ , 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	Respirable Dust Sampler, with cyclone	5.0 - 1200
1.	Particulate Matter (PM <sub>10</sub> )	separator, Gravimetric Method	3.0 1200
2.	Fine Particulate Matter	Fine Particulate Sampler, Gravimetric	2.0 - 500
۷.	(PM <sub>2.5</sub> )	Method	2.0 - 300
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  $PM_{2.5}$ ,  $PM_{10}$ ,  $SO_2$  and  $NO_X$  are presented in **Table 3.3**.

Table-3.3:
Ambient Air Quality Monitoring Results Near Main Gate

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 <sup>3</sup>	88.4	5.0 - 1200	For
1	less than 10 µm (PM <sub>10</sub> )	Reaffirmed: 2022	μg/III	M 88.4	3.0 - 1200	24 hour =100
2	Particulate matters size	IS: 5182 (Part-24): 2019	11 a/m <sup>3</sup>	ug/m <sup>3</sup> <b>53.58</b>	2.0 - 500	For
2	less than 2.5 $\mu$ m (PM <sub>2.5</sub> )	13. 3162 (Fait-24). 2019	μg/III		2.0 - 300	24 hour =60
3	Sulphur Dioxides (SO <sub>2</sub> )	IS: 5182 (Part-2): 2001	μg/m³ <b>14.98</b>	<sup>3</sup> <b>14.98</b> 5.0 - 1050	5.0 1050	For
3	Sulphur Dioxides (SO <sub>2</sub> )	Reaffirmed: 2022		3.0 - 1030	24 hour =80	
4	Oxides of nitrogen	IS: 5182 (Part-6): 2006	μg/m³	22.15	6.0 - 750	For
4	$(NO_X)$	Reaffirmed: 2022		22.13		24 hour =80

### 3.1.4 Ambient Air Quality Monitoring Results Near Boiler

The detailed on-site monitoring results of PM<sub>2.5</sub>, PM<sub>10</sub>, SO<sub>2</sub> and NOx are presented in **Table 3.4**.

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Table 3.4:
Ambient Air Quality Monitoring Results Near Boiler

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 <sup>3</sup>	79.4	5.0 - 1200	For
1	less than 10 µm (PM <sub>10</sub> )	Reaffirmed: 2022	μg/III	19.4	3.0 - 1200	24 hour =100
2	Particulate matters size	IS: 5182 (Part-24): 2019	μg/m³	48.75	2.0 - 500	For
	less than 2.5 μm (PM <sub>2.5</sub> )	13. 3162 (Fait-24). 2019			2.0 - 300	24 hour =60
3	Culphur Dioridos (CO.)	IS: 5182 (Part-2): 2001	μg/m <sup>3</sup>	13.22	5.0 - 1050	For
3	Sulphur Dioxides (SO <sub>2</sub> )	Reaffirmed: 2022	μg/III	13.22	3.0 - 1030	24 hour =80
4	Oxides of nitrogen	IS: 5182 (Part-6): 2006	/ 3	20.50	60 750	For
4	$(NO_X)$	Reaffirmed: 2022	μg/m <sup>3</sup>	20.58	6.0 - 750	24 hour =80

# 3.1.5 Ambient Air Quality Monitoring Results Near Gahre ki Madaiyan

The detailed on-site monitoring results of  $PM_{2.5}$ ,  $PM_{10}$ ,  $SO_2$  and  $NO_X$  are presented in **Table 3.5**.

Table-3.5: Ambient Air Quality Monitoring Results Near Gahre ki Madaiyan

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 <sup>3</sup>	75.9	5.0 - 1200	For
1	less than 10 µm (PM <sub>10</sub> )	Reaffirmed: 2022	μg/III	13.9	3.0 - 1200	24  hour = 100
2	Particulate matters size	IS: 5182 (Part-24): 2019	μg/m³	47.32	2.0 - 500	For
	less than 2.5 $\mu$ m (PM <sub>2.5</sub> )	13. 3162 (Fait-24). 2019			2.0 - 300	24  hour = 60
3	Culphur Dioridos (CO.)	IS: 5182 (Part-2): 2001	μg/m <sup>3</sup>	13.42	5.0 - 1050	For
3	Sulphur Dioxides (SO <sub>2</sub> )	Reaffirmed: 2022	μg/III	13.42	3.0 - 1030	24 hour =80
1	Oxides of nitrogen	IS: 5182 (Part-6): 2006	μg/m <sup>3</sup>	10.05	6.0 - 750	For
4	$(NO_X)$	Reaffirmed: 2022	μg/III	19.85	0.0 - 730	24 hour =80

# 3.1.6 Ambient Air Quality Monitoring Results Near Village: Asmoli

The detailed on-site monitoring results of  $PM_{2.5}$ ,  $PM_{10}$ ,  $SO_2$  and  $NO_X$  are presented in **Table 3.6**.

Table-3.6:
Ambient Air Quality Monitoring Results Near Village: Asmoli

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 <sup>3</sup>	76.3	5.0 - 1200	For
1	less than 10 µm (PM <sub>10</sub> )	Reaffirmed: 2022	μg/III	70.5	3.0 1200	24  hour = 100
2	Particulate matters size	IS: 5182 (Part-24): 2019	μg/m³	46.01	2.0 - 500	For
	less than 2.5 $\mu$ m (PM <sub>2.5</sub> )	13. 3162 (Fait-24). 2019				24  hour = 60
3	Sulphur Dioxides (SO <sub>2</sub> )	IS: 5182 (Part-2): 2001	μg/m <sup>3</sup>	12.49	5.0 - 1050	For
3	Sulphur Dioxides (SO <sub>2</sub> )	Reaffirmed: 2022	μg/III	12,49	3.0 - 1030	24  hour = 80
1	Oxides of nitrogen	IS: 5182 (Part-6): 2006	11 a/m <sup>3</sup>	17.55	(0.750	For
4	$(NO_X)$	Reaffirmed: 2022	μg/m <sup>3</sup>		6.0 - 750	24  hour = 80

# 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 88.4  $\mu g/m^3$ , 79.4  $\mu g/m^3$ , 75.9  $\mu g/m^3$  & 76.3  $\mu g/m^3$  respectively which were within permissible limit of 100  $\mu g/m^3$  and  $PM_{2.5}$  levels are 53.58  $\mu g/m^3$  Near Main Gate, 48.75  $\mu g/m^3$  at Near Boiler, 47.32  $\mu g/m^3$  at Near Gahre ki Madaiyan and 46.01  $\mu g/m^3$  at Near Village: Asmoli, 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).  $SO_2$  ranges between 12.49  $\mu g/m^3$  to 14.98  $\mu g/m^3$  and  $NO_X$  ranges between 17.55  $\mu g/m^3$  to 22.15  $\mu g/m^3$  was also observed within the corresponding stipulated limits (Limit for  $SO_2$  and  $NO_X$ ; 80  $\mu g/m^3$ ) at all of the 04 monitoring locations. Station wise variation of ambient air quality parameters has been graphically shown in **Figure-3.1 to 3.4**.

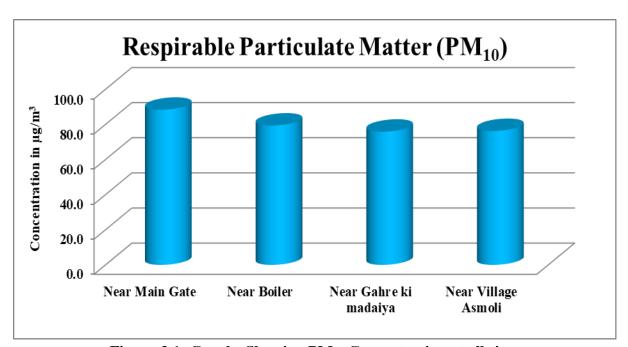


Figure-3.1: Graphs Showing PM<sub>10</sub> Concentration at all sites

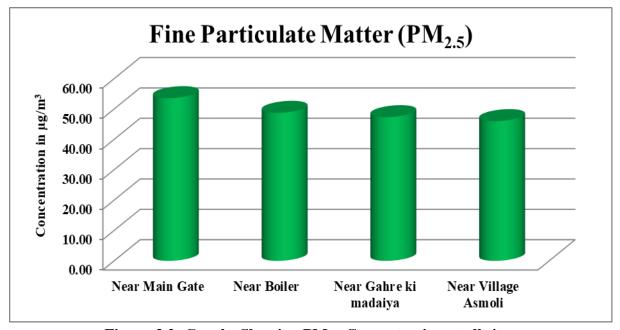


Figure-3.2: Graphs Showing PM<sub>2.5</sub> Concentration at all sites

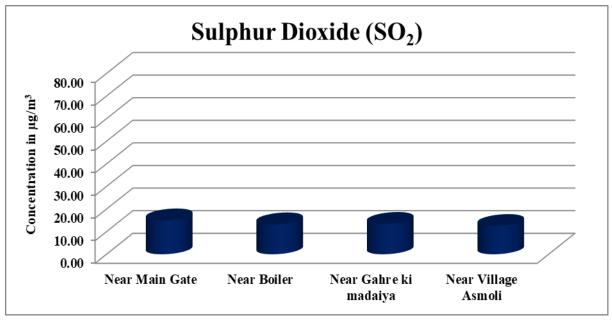


Figure-3.3: Graphs Showing SO<sub>2</sub> Concentration at all sites

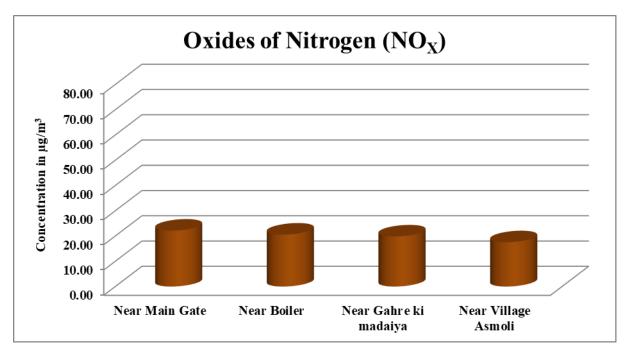


Figure-3.4: Graphs Showing NO<sub>X</sub> Concentration at all sites

# 3.2 STACK EMISSION MONITORING

Stack Emission monitoring was carried out by EPA approved Laboratory on date 08.02.2024 & 09.02.2024 for the installed 35.0 TPH and 45 TPH slop fired boilers (attached with Bagfilter (35 TPH) and Electro Static Precipitator as air pollution control device with a stack height of 70 and 77.0 meters).

### 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** 

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Table-3.7:
Details of Stack Emission Monitoring Results

Sr. No.	Parameter	Unit	Protocol	Stack- 01	Stack- 02	Range of Testing/ Limit of Detection	Standard (as per CPCB)
1	Particulate Matter	mg/Nm <sup>3</sup>	IS: 11255 (Part-1): 1985 Reaffirmed: 2019	44.53	45.12	2.0 - 1000	150

#### 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 project site due to various industrial activities and increased vehicular movement. A preliminary reconnaissance survey has been undertaken to identify the major noise generating sources in the area. Ambient noise monitoring was conducted at 01 location as given in **Table-3.8**.

**Table-3.8: Details of Ambient Noise Monitoring Stations** 

Sr. No	Location Code	Location name and description	Date of Monitoring
1.	NQ - 1	Within Plant Premises	09/02/2024 (06:00 AM) to 10/02/2024 (06:00 AM)

# 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**.

**Table-3.9: Ambient Noise Monitoring Results** 

	Ambient Noise Level								
Sr. No.	Donomoton Init		Results Day Time (06:00 AM - 10:00 PM)	Results Night Time (10:00 PM - 06:00 AM)					
1	Equivalent sound level	dB(A)	61.48	49.25					

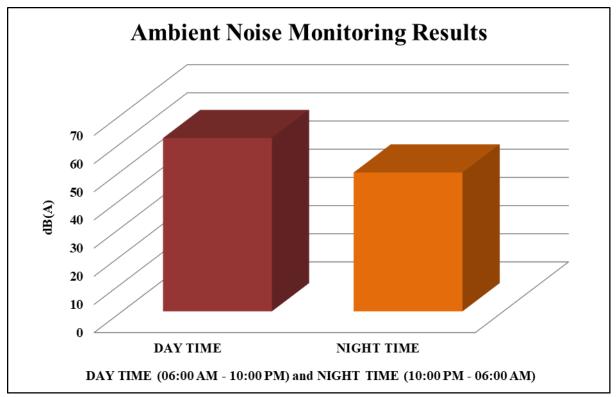


Figure 3.5: Day and Night Time noise Level Within Plant Premises

Table-3.10: Noise Standards as per CPCB Schedule rule 3(1) and 4(1)

Area	Category of	Limits in dB(A) Leq			
Code	Area/Zone	Day Time	Night Time		
A	Industrial Area	75	70		
В	Commercial Area	65	55		
С	Residential Area	55	45		
D	Silence Zone	50	40		

# 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 61.48 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 49.25 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 analysed 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**.

Sr. Location **Location name and description Date of Monitoring** Code No 1. GW - 01 **Borewell Within Premises** 09<sup>th</sup> October, 2023 <del>GW</del> - 01 2. **Borewell Within Premises** 01st November, 2023 11<sup>th</sup> December, 2023 3. **GW** - 01 **Borewell Within Premises** 12<sup>th</sup> January, 2024 GW - 01 **Borewell Within Premises** 4. 10<sup>th</sup> February, 2024 5. GW - 01 **Borewell Within Premises** 14th March, 2024 **Borewell Within Premises** 6. GW - 01

**Table-3.11: Details of Water Quality Monitoring Station** 

# 3.4.2 Methodology of ground water Quality Monitoring

Sampling of ground water was carried out on 09.10.2023, 01.11.2023, 11.12.2023, 12.01.2024, 10.02.2024 and 14.03.2024. 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 HNO<sub>3</sub>. 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 analysed 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-3.12 to Table-3.17.** 

# 3.4.3 Ground water Quality Monitoring Results

The detailed Ground water quality monitoring results are presented in **Table-3.12 to Table-3.17.** 

Table-3.12:
Ground water Quality Results at Borewell Within Premises (October, 2023)

Sr. No	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit	1050	Standard 0: 2012
110					of detection	Desirable	Permissible
1	Colour	Hazen	Physico-chemical Parame IS: 3025 (Part-04): 2021	<5.0	5 - 30	5	15
2	Odour	- Tazen	IS: 3025 (Part-04): 2021 IS: 3025 (Part-05): 2018	Agreeable	Qualitative	Agreeable	Agreeable
			·				No
3	pН	-	APHA 24 <sup>th</sup> Ed. 2023 - 4500 H <sup>+</sup>	7.5	1 - 14	6.5-8.5	Relaxation
4	Turbidity	NTU	APHA 24 <sup>th</sup> Ed. 2023 - 2130 B	<2.0	2 - 40	1	5
5	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 2023	384.8	10 - 5000	500	2000
6	Ammonia (as total ammonia-N)	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500-NH <sub>3</sub> F	<0.5	0.5 - 2	0.5	No Relaxation
7	Anionic Detergents (as MBAS)	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 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	51.2	2.0 - 600	75	200
9	Magnesium as Mg	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3500 Mg, B	26.24	0.1 - 200	30	100
10	Chloride as Cl	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500-CI <sup>-</sup> B	20.0	2.0 - 2000	250	1000
11	Fluoride as F	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500 F <sup>-</sup> C	0.28	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 <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	<1.0	1.0 - 70	45	No Relaxation
14	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 5530 C	<0.001	0.001 - 0.005	0.001	0.002
15	Sulphate as SO <sub>4</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500- SO <sub>4</sub> <sup>2-</sup>	28.0	1.0 - 500	200	400
16	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 2320 B	268.0	2.0 - 1000	200	600
17	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 2340 C	236.0	5.0 - 800	200	600
18	Aluminium as Al	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.015	0.015 - 5.0	0.03	0.2
19	Boron as B	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.05	0.05 - 2.0	0.5	1.0
20	Copper as Cu	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.03	0.03 - 10	0.05	1.5
21	Iron as Fe	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	0.17	0.05 - 20	0.3	No Relaxation
22	Manganese as Mn	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	0.03	0.02 - 5.0	0.1	0.3
23	Zinc as Zn	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	0.78	0.05 - 15	5	15
24	Cadmium as Cd	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.003	0.003 - 2.0	0.003	No Relaxation
25	Lead as Pb	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.01	0.01 - 10	0.01	No Relaxation
26	Mercury as Hg	μg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3112 B	<0.5	0.5 - 1000	1.0	No Relaxation
27	Nickel as Ni	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.02	0.02 - 5.0	0.02	No Relaxation
28	Arsenic as As	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.02	0.02 - 2.0	0.01	0.05
29	Total Chromium	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.03	0.03 - 5.0	0.05	No Relaxation
			Microbiological Parame	ters			
30	E. coli	MPN/ 100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	1.8 - 1600		e detected in ml sample
31	T. coli	MPN/ 100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	1.8 - 1600	Shall not b	e detected in ml sample

Table-3.13:
Ground water Quality Results at Borewell Within Premises (November, 2023)

Sr.	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit	Indian	Standard 0: 2012
No					of detection	Desirable	Permissible
-	0.1		Physico-chemical Parame		<b>5</b> 20	· -	1.7
2	Colour Odour	Hazen -	IS: 3025 (Part-04): 2021 IS: 3025 (Part-05): 2018	<5.0 Agreeable	5 - 30 Qualitative	5 Agreeable	15 Agreeable
			·	.,			No
3	pН	-	APHA 24 <sup>th</sup> Ed. 2023 - 4500 H <sup>+</sup>	7.4	1 - 14	6.5-8.5	Relaxation
4	Turbidity	NTU	APHA 24 <sup>th</sup> Ed. 2023 - 2130 B	<2.0	2 - 40	1	5
5	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 2023	360.2	10 - 5000	500	2000
6	Ammonia (as total ammonia-N)	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500-NH <sub>3</sub> F	<0.5	0.5 - 2	0.5	No Relaxation
7	Anionic Detergents (as MBAS)	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 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	49.6	2.0 - 600	75	200
9	Magnesium as Mg	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3500 Mg, B	31.10	0.1 - 200	30	100
10	Chloride as Cl	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500-CI <sup>-</sup> B	24.0	2.0 - 2000	250	1000
11	Fluoride as F	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500 F <sup>-</sup> 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 NO <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	<1.0	1.0 - 70	45	No Relaxation
14	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 5530 C	<0.001	0.001 - 0.005	0.001	0.002
15	Sulphate as SO <sub>4</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500- SO <sub>4</sub> <sup>2-</sup>	30.0	1.0 - 500	200	400
16	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 2320 B	276.0	2.0 - 1000	200	600
17	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 2340 C	252.0	5.0 - 800	200	600
18	Aluminium as Al	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.015	0.015 - 5.0	0.03	0.2
19	Boron as B	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.05	0.05 - 2.0	0.5	1.0
20	Copper as Cu	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.03	0.03 - 10	0.05	1.5
21	Iron as Fe	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	0.09	0.05 - 20	0.3	No Relaxation
22	Manganese as Mn	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	0.08	0.02 - 5.0	0.1	0.3
23	Zinc as Zn	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	0.65	0.05 - 15	5	15
24	Cadmium as Cd	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.003	0.003 - 2.0	0.003	No Relaxation
25	Lead as Pb	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.01	0.01 - 10	0.01	No Relaxation
26	Mercury as Hg	μg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3112 B	<0.5	0.5 - 1000	1.0	No Relaxation
27	Nickel as Ni	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.02	0.02 - 5.0	0.02	No Relaxation
28	Arsenic as As	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.02	0.02 - 2.0	0.01	0.05
29	Total Chromium	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.03	0.03 - 5.0	0.05	No Relaxation
			Microbiological Parame	ters	·		
30	E. coli	MPN/ 100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	1.8 - 1600	any 100	e detected in ml sample
31	T. coli	MPN/ 100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	1.8 - 1600		e detected in ml sample

Table-3.14:
Ground water Quality Results at Borewell Within Premises (December, 2023)

Sr.	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit	Indian	Standard 0: 2012
No					of detection	Desirable	Permissible
			Physico-chemical Parame			_	
1	Colour	Hazen	IS: 3025 (Part-04): 2021 IS: 3025 (Part-05): 2018	<5.0	5 - 30 Qualitative	5	15 Agreeable
2	Odour	-		Agreeable	Quantative	Agreeable	No
3	рН	-	APHA 24 <sup>th</sup> Ed. 2023 - 4500 H <sup>+</sup>	7.5	1 - 14	6.5-8.5	Relaxation
4	Turbidity	NTU	APHA 24 <sup>th</sup> Ed. 2023 - 2130 B	<2.0	2 - 40	1	5
5	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 2023	388.6	10 - 5000	500	2000
6	Ammonia (as total ammonia-N)	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500-NH <sub>3</sub> F	<0.5	0.5 - 2	0.5	No Relaxation
7	Anionic Detergents (as MBAS)	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 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 24 <sup>th</sup> Ed. 2023 - 3500 Mg, B	30.13	0.1 - 200	30	100
10	Chloride as Cl	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500-CI <sup>-</sup> B	32.0	2.0 - 2000	250	1000
11	Fluoride as F	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500 F <sup>-</sup> C	0.29	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 <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	<1.0	1.0 - 70	45	No Relaxation
14	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 5530 C	<0.001	0.001 - 0.005	0.001	0.002
15	Sulphate as SO <sub>4</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500- SO <sub>4</sub> <sup>2-</sup>	26.0	1.0 - 500	200	400
16	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 2320 B	296.0	2.0 - 1000	200	600
17	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 2340 C	264.0	5.0 - 800	200	600
18	Aluminium as Al	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.015	0.015 - 5.0	0.03	0.2
19	Boron as B	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.05	0.05 - 2.0	0.5	1.0
20	Copper as Cu	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.03	0.03 - 10	0.05	1.5
21	Iron as Fe	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	0.05	0.05 - 20	0.3	No Relaxation
22	Manganese as Mn	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	0.04	0.02 - 5.0	0.1	0.3
23	Zinc as Zn	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	0.29	0.05 - 15	5	15
24	Cadmium as Cd	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.003	0.003 - 2.0	0.003	No Relaxation
25	Lead as Pb	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.01	0.01 - 10	0.01	No Relaxation
26	Mercury as Hg	μg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3112 B	<0.5	0.5 - 1000	1.0	No Relaxation
27	Nickel as Ni	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.02	0.02 - 5.0	0.02	No Relaxation
28	Arsenic as As	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.02	0.02 - 2.0	0.01	0.05
29	Total Chromium	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.03	0.03 - 5.0	0.05	No Relaxation
			Microbiological Parame	ters		T at == :	
30	E. coli	MPN/ 100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	1.8 - 1600		e detected in ml sample
31	T. coli	MPN/ 100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	1.8 - 1600		e detected in ml sample

Table-3.15:
Ground water Quality Results at Borewell Within Premises (January, 2024)

Sr.	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit		Standard 0: 2012
No					of detection	Desirable	Permissible
1	G-1	TT	Physico-chemical Parame		5 20		1.5
2	Colour Odour	Hazen -	IS: 3025 (Part-04): 2021 IS: 3025 (Part-05): 2018	<5.0 Agreeable	5 - 30 Qualitative	5 Agreeable	15 Agreeable
			`				No
3	pН	-	APHA 24 <sup>th</sup> Ed. 2023 - 4500 H <sup>+</sup>	7.5	1 - 14	6.5-8.5	Relaxation
4	Turbidity	NTU	APHA 24 <sup>th</sup> Ed. 2023 - 2130 B	<2.0	2 - 40	1	5
5	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 2023	52.8	10 - 5000	500	2000
6	Ammonia (as total ammonia-N)	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500-NH <sub>3</sub> F	<0.5	0.5 - 2	0.5	No Relaxation
7	Anionic Detergents (as MBAS)	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 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	52.8	2.0 - 600	75	200
9	Magnesium as Mg	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3500 Mg, B	28.18	0.1 - 200	30	100
10	Chloride as Cl	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500-CI <sup>-</sup> B	24.0	2.0 - 2000	250	1000
11	Fluoride as F	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500 F <sup>-</sup> C	0.33	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 <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	<1.0	1.0 - 70	45	No Relaxation
14	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 5530 C	<0.001	0.001 - 0.005	0.001	0.002
15	Sulphate as SO <sub>4</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500- SO <sub>4</sub> <sup>2-</sup>	30.0	1.0 - 500	200	400
16	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 24th Ed. 2023 - 2320 B	288.0	2.0 - 1000	200	600
17	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 2340 C	248.0	5.0 - 800	200	600
18	Aluminium as Al	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.015	0.015 - 5.0	0.03	0.2
19	Boron as B	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.05	0.05 - 2.0	0.5	1.0
20	Copper as Cu	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.03	0.03 - 10	0.05	1.5
21	Iron as Fe	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	0.09	0.05 - 20	0.3	No Relaxation
22	Manganese as Mn	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	0.03	0.02 - 5.0	0.1	0.3
23	Zinc as Zn	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	0.14	0.05 - 15	5	15
24	Cadmium as Cd	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.003	0.003 - 2.0	0.003	No Relaxation
25	Lead as Pb	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.01	0.01 - 10	0.01	No Relaxation
26	Mercury as Hg	μg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3112 B	<0.5	0.5 - 1000	1.0	No Relaxation
27	Nickel as Ni	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.02	0.02 - 5.0	0.02	No Relaxation
28	Arsenic as As	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.02	0.02 - 2.0	0.01	0.05
29	Total Chromium	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.03	0.03 - 5.0	0.05	No Relaxation
			Microbiological Parame	ters			
30	E. coli	MPN/ 100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	1.8 - 1600		e detected in ml sample
31	T. coli	MPN/ 100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	1.8 - 1600		e detected in ml sample

Table-3.16: Ground water Quality Results at Borewell Within Premises (February, 2024)

Sr. No	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing /limit	1050	Standard 0: 2012
110					of detection	Desirable	Permissible
1	Colour	Hazen	Physico-chemical Parame IS: 3025 (Part-04): 2021	<5.0	5 - 30	5	15
2	Odour	-	IS: 3025 (Part-04): 2021	Agreeable	Qualitative	Agreeable	Agreeable
3	рН	_	APHA 24 <sup>th</sup> Ed. 2023 - 4500 H <sup>+</sup>	7.4	1 - 14	6.5-8.5	No
							Relaxation
4	Turbidity Total Dissolved Solids	NTU	APHA 24 <sup>th</sup> Ed. 2023 - 2130 B	<2.0	2 - 40	1	5
5	(TDS)	mg/l	IS: 3025 (Part-16): 2023	374.6	10 - 5000	500	2000
6	Ammonia (as total ammonia-N)	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500-NH <sub>3</sub> F	<0.5	0.5 - 2	0.5	No Relaxation
7	Anionic Detergents (as MBAS)	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 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 24 <sup>th</sup> Ed. 2023 - 3500 Mg, B	28.18	0.1 - 200	30	100
10	Chloride as Cl	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500-CI <sup>-</sup> B	28.0	2.0 - 2000	250	1000
11	Fluoride as F	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500 F <sup>-</sup> C	0.34	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 <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	<1.0	1.0 - 70	45	No Relaxation
14	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 5530 C	<0.001	0.001 - 0.005	0.001	0.002
15	Sulphate as SO <sub>4</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500- SO <sub>4</sub> <sup>2-</sup>	24.0	1.0 - 500	200	400
16	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 24th Ed. 2023 - 2320 B	284.0	2.0 - 1000	200	600
17	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 2340 C	256.0	5.0 - 800	200	600
18	Aluminium as Al	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.015	0.015 - 5.0	0.03	0.2
19	Boron as B	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.05	0.05 - 2.0	0.5	1.0
20	Copper as Cu	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.03	0.03 - 10	0.05	1.5
21	Iron as Fe	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	0.11	0.05 - 20	0.3	No Relaxation
22	Manganese as Mn	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	0.03	0.02 - 5.0	0.1	0.3
23	Zinc as Zn	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	0.55	0.05 - 15	5	15
24	Cadmium as Cd	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.003	0.003 - 2.0	0.003	No Relaxation
25	Lead as Pb	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.01	0.01 - 10	0.01	No Relaxation
26	Mercury as Hg	μg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3112 B	<0.5	0.5 - 1000	1.0	No Relaxation
27	Nickel as Ni	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.02	0.02 - 5.0	0.02	No Relaxation
28	Arsenic as As	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.02	0.02 - 2.0	0.01	0.05
29	Total Chromium	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.03	0.03 - 5.0	0.05	No Relaxation
			Microbiological Parame	ters			
30	E. coli	MPN/ 100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	1.8 - 1600		e detected in ml sample
31	T. coli	MPN/ 100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	1.8 - 1600	Shall not b	e detected in ml sample

Table-3.17:
Ground water Quality Results at Borewell Within Premises (March, 2024)

Sr. No	Test Parameter			Result	Range of testing /limit	1050	Indian Standard 10500: 2012	
110				-4	of detection	Desirable	Permissible	
1	Colour	Hazen	Physico-chemical Parame IS: 3025 (Part-04): 2021	<5.0	5 - 30	5	15	
2	Odour	-	IS: 3025 (Part-04): 2021	Agreeable	Qualitative	Agreeable	Agreeable	
3	рН	-	APHA 24 <sup>th</sup> Ed. 2023 - 4500 H <sup>+</sup>	7.5	1 - 14	6.5-8.5	No Relaxation	
4	Turbidity	NTU	APHA 24 <sup>th</sup> Ed. 2023 - 2130 B	<2.0	2 - 40	1	5	
	Total Dissolved Solids					_		
5	(TDS)	mg/l	IS: 3025 (Part-16): 2023	380.0	10 - 5000	500	2000	
6	Ammonia (as total ammonia-N)	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500-NH <sub>3</sub> F	<0.5	0.5 - 2	0.5	No Relaxation	
7	Anionic Detergents (as MBAS)	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 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 24 <sup>th</sup> Ed. 2023 - 3500 Mg, B	27.21	0.1 - 200	30	100	
10	Chloride as Cl	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500-CI <sup>-</sup> B	20.0	2.0 - 2000	250	1000	
11	Fluoride as F	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500 F <sup>-</sup> C	0.45	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 <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	<1.0	1.0 - 70	45	No Relaxation	
14	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 5530 C	<0.001	0.001 - 0.005	0.001	0.002	
15	Sulphate as SO <sub>4</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500- SO <sub>4</sub> <sup>2-</sup>	22.0	1.0 - 500	200	400	
16	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 2320 B	272.0	2.0 - 1000	200	600	
17	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 2340 C	248.0	5.0 - 800	200	600	
18	Aluminium as Al	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.015	0.015 - 5.0	0.03	0.2	
19	Boron as B	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.05	0.05 - 2.0	0.5	1.0	
20	Copper as Cu	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.03	0.03 - 10	0.05	1.5	
21	Iron as Fe	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	0.14	0.05 - 20	0.3	No Relaxation	
22	Manganese as Mn	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	0.05	0.02 - 5.0	0.1	0.3	
23	Zinc as Zn	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	0.26	0.05 - 15	5	15	
24	Cadmium as Cd	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.003	0.003 - 2.0	0.003	No Relaxation	
25	Lead as Pb	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.01	0.01 - 10	0.01	No Relaxation	
26	Mercury as Hg	μg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3112 B	<0.5	0.5 - 1000	1.0	No Relaxation	
27	Nickel as Ni	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.02	0.02 - 5.0	0.02	No Relaxation	
28	Arsenic as As	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.02	0.02 - 2.0	0.01	0.05	
29	Total Chromium	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	<0.03	0.03 - 5.0	0.05	No Relaxation	
			Microbiological Parame	ters				
30	E. coli	MPN/ 100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	1.8 - 1600		e detected in ml sample	
31	T. coli	MPN/ 100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	1.8 - 1600	Shall not b	e detected in ml sample	

#### 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 constructions allied 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-3.18**.

**Table-3.18:** Details of Soil Monitoring Stations

Sr. No	<b>Location Code</b>	Location name and description
1.	SQ - 1	Near Plant Premises

# 3.5.2 Methodology of Soil Monitoring

The sampling has been done in line with IS: 2720 & Methods of Soil Analysis, Part-1<sup>st</sup>, 2<sup>nd</sup> 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 February on 10.02.2024.

The samples have been analyzed as per the established scientific methods for Physicochemical 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-3.19**.

EC Compliance October, 2023 to March, 2024

Table-3.19: Physico-Chemical Characteristics of Soil at near Plant 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	7.4	1 - 14
2	Electrical Conductivity	μmhos/cm	IS: 14767:2000 Reaffirmed:2021	298.0	1.0 - 40000
3	Moisture content	%	IS: 2720 (Part -2):1973 Reaffirmed:2020	3.04	1.0 - 50
4	Nitrate as N	Kg/Hec	Method Manual of Soil Testing in Inda	216.4	5.0 -500
5	Phosphorus (as P <sub>2</sub> O <sub>5</sub> )	Kg/Hec	Method Manual of Soil Testing in Inda	18.6	1-2000
6	Potash as K <sub>2</sub> O	Kg/Hec	Method Manual of Soil Testing in Inda	148.0	1-2000
6	Copper	mg/kg	Method Manual of Soil Testing in Inda	0.41	0.3 - 500
7	Zinc as Zn	mg/kg	Method Manual of Soil Testing in Inda	10.28	1.0 - 500
8	Iron as Fe	mg/kg	Method Manual of Soil Testing in Inda	106.8	5.0 - 500
9	Manganese as Mn	mg/kg	Method Manual of Soil Testing in Inda	9.2	5.0 - 500
4	Sulphur	Kg/Hec	IS: 14685:1999 Reaffirmed:2019	11.6	5.0 - 100

# 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



#### **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.in, Website: www.uppcb.com

174913/UPPCB/Moradabad(UPPCBRO)/CTO/both/SAMBHAL/2023 Date: 30/01/2023

To,

M/s

DHAMPUR BIO ORGANICS LIMITED UNIT ASMOLI DIVISION BIOFUELS AND SPIRITS

Vill - Asmoli, Distt - Sambhal, SAMBHAL, 244304

Application Id-19410441

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 **DHAMPUR BIO ORGANICS LIMITED UNIT ASMOLI DIVISION BIOFUELS AND SPIRITS** located at **Vill - Asmoli, Distt - Sambhal,SAMBHAL,244304**. 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:-

1. This CCA DHAMPUR BIO ORGANICS LIMITED UNIT ASMOLI DIVISION BIOFUELS AND SPIRITS granted for the period from 30/01/2023 to 31/12/2024 and valid for manufacturing of following products.

S No	Product	Quantity	Unit
1	RS/ENA/AA by using B Heavy Molasses	350	Kilo Liters/Day
2	RS/ENA/AA by using Cane juice syrup	375	Kilo Liters/Day
3	RS/ENA/AA by using C Heavy Molasses	250	Kilo Liters/Day
4	Co- generation power	8.5	Megawatt

- 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	40 KLD	STP	ground
Industrial	ZLD	ЕТР	

(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	Zero Liquid Discharge	

- (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 35 TPH	Slop and Baggasse	01	Particulate Matter	bag filtre and stack height is 70 meter from ground level
2	Slop Boiler 45 TPH	Slop and Baggasse	02	Particulate Matter	Electrostatic Precipitator as APCS along with stack height of 77 meter from ground level

### **Emmission Quality Standards**

S No.	Stack no	Parameters	Standards		
1	01	Particulate Matter	50mg/NM3		
2	02	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			nercial rea	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. The earlier CTO issued by UPPCB vide letter number 152627/UPPCB/Moradabad(UPPCBRO)/CTO/both/BHIM NAGAR/2022 Date: 25/03/2022 issued under Water (Prevention and Control of Pollution) Act 1974 and Air (Prevention and Control of Pollution) Act 1981 with validity 31.12.2023 is hereby revoked.
- 2. This consent is valid for production of 350 KLD Rectified Spirit/ENA/Absolute Alcohol by using B Heavy Molasses or 375 KLD Rectified Spirit/ENA/Absolute Alcohol by using Cane Juice Syrup or 250 KLD Rectified Spirit/ENA/Absolute Alcohol by using C Heavy Molasses and 8.5 MW co-generation power.
- 3. The unit shall submit the validation report for 375 KLD Ethanol production from any reputed Institute such as NSI, Kanpur/VSI, Pune/any IIT within 03 months after starting BHeavy molasses / Cane Juice Syrup based operation. If the validation report carried out by any reputed institute is same as claim made by the unit then SPCB may further allow to operate as per proposal of the unit.
- 4. Domestic sewage 40 KLD shall be disposed through STP of 60 KLD capacity, 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 the APCS installed in the slop fire boiler of 35 TPH with bag filtre and stack height is 70 meter from ground level, and Slop boiler of 45 TPH with ESP and stack height is 77 meter from ground level.
- 11. Unit shall operate and maintain the installed online emission monitoring system at the stacks of Boilers mentioned in this CTO and shall 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 Moradabad 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. - 177/UPHOC7/EIA/SAMBHAL/2023

Dated: 06/01/2023

To,

Shri JAGVEER SINGH

M/s DHAMPUR BIO ORGANICS LIMITED UNIT ASMOLI DIVISION BIOFUELS AND

**SPIRITS** 

Vill - Asmoli, Distt - Sambhal, SAMBHAL, 244304

**SAMBHAL** 

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 05/01/2023 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. 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** 

- I. The Project under consideration is for addition of alternative feedstock as B Heavy Molasses / Cane Juice Syrup along with Molasses with increase in production capacity i.e. 350 KLD on B Heavy Molasses based operation or 375 KLD on Cane Juice Syrup based operation by the Distillery Unit M/s Dhampur Bio Organics Limited, Unit Asmoli, Division Biofuels & Spirits (formerly known as DSM Asmoli, Distillery Division (A Unit of Dhampur Sugar Mills Limited)).
- II. Unit installed CPU of capacity 4500 cubic meter/day along with Reverse Osmosis System to enable recycling of MEE condensate, boiler blow down etc in order to fulfil the needs of fresh water.
- III. The raw material consumption will reduce by 23 TPD against 40 % increase of production capacity as B-Heavy molasses and reduce by 36 TPD against the 50 % increase in production capacity as Cane Juice Syrup has higher sugar percentage.
- IV. Unit already installed CPU of capacity 4500 cubic meter/day along with Reverse Osmosis System to enable recycling of MEE condensate, boiler blow down etc in order to fulfil the needs of fresh water.
- V. Fresh water requirement will be reduced by 83 KLD during B Heavy molasses-based operation and reduced by 133 KLD during Cane Juice Syrup based operation.
- VI. Pollutant load like BOD, COD, TDS and TSS in effluent will be reduced during B Heavy Molasses / Cane Juice based operation.
- VII. Total BOD load during C-Heavy Molasses based operation is 234000 kg/day, which will be reduced to 181944 kg / day during B-Heavy Molasses based operation and reduced to 177840 kg / day during Cane Juice Syrup based operation.
- VIII. Total COD load during C-Heavy Molasses based operation is 390000 kg/day, which will be reduced to 303240 kg / day during B-Heavy Molasses based operation and reduced to 296400 kg / day during Cane Juice Syrup based operation.
- IX. Total TDS load during C-Heavy Molasses based operation is 260000 kg/day, which will be reduced to 214562 kg / day during B-Heavy Molasses based operation and reduced to 209723 kg / day during Cane Juice Syrup based operation.
- X. Total TSS load during C-Heavy Molasses based operation is 24000 kg/day, which will be reduced to 19651 kg / day during B-Heavy Molasses based operation and reduced to 19208 kg / day during Cane Juice Syrup based operation.
- XI. Total generation of fly ash shall be reduced by 38.32 TPD during B-heavy molasses based operation and will be reduced by 8.38 TPD during Cane Juice based operation.
- XII. Concentrated spent wash generation will be reduced during B heavy Molasses based by 247 TPD and 473 TPD during Cane Juice syrup based operation.
- XIII. There shall not be any incremental rise with respect to air pollution in view of the fact that Air Pollution Control System (Bag filter & ESP) shall keep particulate matter below 50 mg/Nm3 during Grain based operation.
- XIV. Total emission load from the stack will be reduced with reduction in Slop quantity during B-Heavy Molasses and Cane Juice syrup based operations. Slop is having more solid and sulphur content in comparison to Bagasse.
- XV. Total PM Load during C-Heavy Molasses based operation is 191.85 kg/day which will be reduced to 183.20 kg/day during B-Heavy Molasses and 162.2 kg/day during Cane Juice syrup based operation.
- XVI. Total SO2 Load during C-Heavy Molasses based operation is 282.01 kg/day which will be reduced to 212.50 kg/day during B-Heavy Molasses and 205.8 kg/day during Cane Juice syrup based operation.
- XVII. Total NO2 Load during C-Heavy Molasses based operation is 363.53 kg/day which will be reduced to 331.42 kg/day during B-Heavy Molasses and 310.0 kg/day during Cane Juice syrup based operation.
- XVIII. Unit already adopted Concentration followed by Incineration technology to achieve Zero Liquid Discharge and same will be done for B- heavy Molasses / Cane Juice 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 Dhampur Bio Organics Limited, Unit Asmoli, Division Biofuels & Spirits (formerly known as DSM Asmoli, Distillery Division (A Unit of Dhampur Sugar Mills Limited)), at village Asmoli, Tehsil Sambhal & District Sambhal, Uttar Pradesh due to use of alternative feed stock B-heavy Molasses or Cane Juice Syrup as 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 or Cane Juice Syrup expansion of Ethanol / ENA / Rectified Spirit production capacity expansion from 250 KLD to 350 KLD (on feedstock: B Heavy Molasses) or 375 KLD (on feedstock: Cane Juice Syrup) 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 375 KLD Ethanol production from any reputed Institute such as NSI, Kanpur/VSI, Pune/any IIT within 03 months after starting B-Heavy molasses / Cane Juice Syrup based operation. If the validation report carried out by any reputed institute is same as claim made by the unit then SPCB may further allow to operate as per proposal of the unit.
- 3. The unit shall restrict the spent wash storage capacity to 07 days only (B-Heavy molasses).
- 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. Quantity of Spent lees generation, recycle/reuse and treatment in CPU
- i. Quantity of effluent received into CPU, details of reuse/recycle etc.
- j. 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 350 KLD (B Heavy Molasses based operation) or 375 KLD (Cane Juice Syrup based operation) Alcohol from UPPCB before starting production of Alcohol based on B-Heavy molasses / Cane Juice Syrup.

**Chief Environmental Officer** 

Circle-7

# Copy

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

Chief Environmental Officer Circle-7

# F. No.J-11011/224/2007-IA II(I)

Government of India
Ministry of Environment, Forest and Climate Change
(IA-II Section)

Indira Paryavaran Bhawan Jor bagh Road, New Delhi - 3 Dated: 29<sup>th</sup> January, 2019

To

M/s Dhampur Sugar Mills Ltd Village Asmoli, Tehsil & District <u>Sambhal</u> (UP)

Sub: Expansion of molasses based distillery from 100 KLPD to 250 KLPD by M/s Dhampur Sugar Mills Limited at Village Asmoli, Tehsil & District Sambhal (UP) - Environmental Clearance - reg.

Sir,

This has reference to your online proposal No.IA/UP/IND2/30759/2006 dated 9<sup>th</sup> October, 2018 along with the EIA/EMP report containing public hearing proceedings for the above mentioned project.

- 2. The Ministry of Environment, Forest and Climate Change has examined the proposal for environmental clearance to the project for expansion of molasses based distillery from 100 KLPD to 250 KLPD by M/s Dhampur Sugar Mills Limited in an area of 80900 sqm located at Village Asmoli, Tehsil & District Sambhal (Uttar Pradesh). The project also involves increase in cogeneration power from 3.5 MW to 8.5 MW.
- 3. Existing land area is 80900 sqm. No additional land will be required for the proposed expansion. Industry has developed greenbelt in an area of 33% i.e. 27900 sqm out of total area of the project. The estimated project cost is Rs.149.65 crores. Total capital cost earmarked towards environmental pollution control measures is Rs.70.13 crores and the recurring cost (operation and maintenance) will be about Rs.2.75 crores per annum.
- **4.** There are no National parks, Wildlife Sanctuaries, Biosphere Reserves, Tiger/ Elephant Reserves, Wildlife corridors etc within 10 km from the project site.
- **5.** Total water requirement is estimated to be 4050 m³/day, of which fresh water demand of 2250 m³/day will be met from ground water. Approval from the Central Ground Water Authority has been obtained vide their letter dated 10<sup>th</sup> June, 2016 for withdrawal of 1000 KLD through existing tube well. Application for withdrawal for additional 1250 KLD of ground water is under consideration of the Central Ground Water Authority. The fresh water requirement is proposed to be reduced to 2000 cum/day i.e. 8KL/KL of Ethanol production.

Spent wash generated from the distillation process (2110 cum/day) would be fed to two stage evaporation system to concentrate solids from 18% w/w to 55% w/w by using steam. The vapors would be condensed and collected in a tank. Some part of the condensate, after treatment in the condensate polishing units, would be reused in the process and balance shall be used in cooling tower for makeup water. There will be no discharge of treated/untreated waste water from the unit, and thus conforming to Zero Liquid Discharge.

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Power requirement after expansion will be 8500 KVA, which is proposed to be met from own captive power plant.

Existing unit has 35 TPH concentrated spent wash/ bagasse/ coal fired boiler. To cater to the proposed expansion, one more boiler (spent wash/ bagasse/ coal fired) of 50 TPH shall be installed with bag filter and stack of 60 m to control particulate emissions within the statutory limit of 50 mg/Nm<sup>3</sup>.

- 6. The project/activity is covered under category A of item 5 (g) 'Distilleries' of the Schedule to the Environmental Impact Assessment Notification, 2006 and requires appraisal/approval at Central level in the Ministry.
- 7. ToR for the project was granted by the Ministry vide letter dated 5<sup>th</sup> March, 2016. Public hearing was conducted by the State Pollution Control Board on 26<sup>th</sup> May, 2018.
- 8. The proposal for environmental clearance was considered by the Expert Appraisal Committee (Industry-2) in its meeting held on 29-31 October, 2018. The project proponent and their accredited Consultant M/s Enviro Infra Solutions Pvt Ltd presented the EIA/EMP report as per the ToR. The Committee found the EIA/ EMP Report to be satisfactory, in consonance with the presented ToR, and recommended the project for grant of environmental clearance.
- **9.** Based on the proposal submitted by the project proponent and recommendations of the EAC (Industry-2), the Ministry of Environment, Forest and Climate Change hereby accords environmental clearance to the project for **expansion of molasses based distillery from 100 KLPD to 250 KLPD** by M/s Dhampur Sugar Mills Limited located at Village Asmoli, Tehsil & District Sambhal (Uttar Pradesh), under the provisions of the EIA Notification, 2006, and the amendments therein, subject to compliance of the terms and conditions as under:-
- (a) Consent to Establish/Operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.
- (b) As already committed by the project proponent, Zero Liquid Discharge shall be ensured and no waste/treated water shall be discharged outside the premises.
- (c) Necessary authorization required under the Hazardous and Other Wastes (Management and Trans-Boundary Movement) Rules, 2016, Solid Waste Management Rules, 2016 shall be obtained and the provisions contained in the Rules shall be strictly adhered to.
- (d) To control source and the fugitive emissions, suitable pollution control devices shall be installed to meet the prescribed norms and/or the NAAQS. The gaseous emissions shall be dispersed through stack of adequate height as per CPCB/SPCB guidelines.
- (e) Total fresh water requirement shall not exceed 2000 cum/day proposed to be met from ground water. Prior permission shall be obtained from the concerned regulatory authority/CGWA in this regard.
- (f) 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.
- (g) 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.

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- (h) 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.
- (i) The company shall undertake waste minimization measures as below:-
  - (i) Metering and control of quantities of active ingredients to minimize waste.
  - (ii) Reuse of by-products from the process as raw materials or as raw material substitutes in other processes.
  - (iii) Use of automated filling to minimize spillage.
  - (iv) Use of Close Feed system into batch reactors.
  - (v) Venting equipment through vapour recovery system.
  - (vi) Use of high pressure hoses for equipment clearing to reduce wastewater generation.
- (j) The green belt of 5-10 m width shall be developed in more than 33% of the total project area, mainly along the plant periphery, in downward wind direction, and along road sides etc. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department.
- (k) All the commitments made regarding issues raised during the public hearing/consultation meeting shall be satisfactorily implemented.
- (I) At least 0.75% of the total project cost shall be allocated for Corporate Environment Responsibility (CER) and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office.
- (m) For the DG sets, emission limits and the stack height shall be in conformity with the extant regulations and the CPCB guidelines. Acoustic enclosure shall be provided to DG set for controlling the noise pollution.
- (n) The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Fire fighting system shall be as per the norms.
- (o) Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.
- (p) There shall be adequate space inside the plant premises earmarked for parking of vehicles for raw materials and finished products, and no parking to be allowed outside on public places.
- (q) Storage of raw materials shall be either stored in silos or in covered areas to prevent dust pollution and other fugitive emissions.
- (r) Continuous online (24x7) monitoring system for stack emissions shall be installed for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB server. 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.
- (s)  $CO_2$  generated from the process shall be bottled/made solid ice and sold to authorized vendors.

- (t) There shall be adequate space inside the plant premises earmarked for parking of vehicles for raw materials and finished products, and no parking to be allowed outside on public places.
- **9.1** The grant of Environmental Clearance is further subject to compliance of other generic conditions as under:-
- (i) The project authorities must strictly adhere to the stipulations made by the state Pollution Control Board (SPCB), State Government and/ or any other statutory authority.
- (ii) No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.
- (iii) The locations of ambient air quality monitoring stations shall be decided in consultation with the State Pollution Control Board (SPCB) and it shall be ensured that at least one stations each is installed in the upwind and downwind direction as well as where maximum ground level concentrations are anticipated.
- (iv) The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16<sup>th</sup> November, 2009 shall be complied with.
- (v) 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 noise generation. The ambient noise levels shall conform to the standards prescribed under Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).
- (vi) 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.
- (vii) Training shall be imparted to all employees on safety and health aspects of chemicals handling. Pre-employment and routine periodical medical examinations for all employees shall be undertaken on regular basis.
- (viii) The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, risk mitigation measures and public hearing shall be implemented.
- (ix) The company shall undertake all measures for improving socio-economic conditions of the surrounding area. CSR activities shall be undertaken by involving local villagers, administration and other stake holders. Also eco-developmental measures shall be undertaken for overall improvement of the environment.
- (x) A separate Environmental Management Cell equipped with full-fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions.

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- (xi) The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for environment management/pollution control measures shall not be diverted for any other purpose.
- (xii) A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, Zila Parishad/ Municipal Corporation, Urban local Body and the local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal.
- (xiii) The project proponent shall also submit six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF&CC, the respective Zonal office of CPCB and SPCB. A copy of Environmental Clearance and six monthly compliance status report shall be posted on the website of the company.
- (xiv) The environmental statement for each financial year ending 31<sup>st</sup> March in Form-V as is mandated shall be submitted to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional offices of MoEF&CC by e-mail.
- (xv) The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at Website of the Ministry at <a href="http://moef.nic.in">http://moef.nic.in</a>. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned Regional office of the Ministry.
- 10. The Ministry reserves the right to stipulate additional conditions, if found necessary at subsequent stages and the project proponent shall implement all the said conditions in a time bound manner. The Ministry may revoke or suspend the environmental clearance, if implementation of any of the above conditions is not found satisfactory.
- 11. The above conditions will be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Water Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Hazardous Waste (Management, Handling and Trans-boundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991, read with subsequent amendments therein.

(S. K. Srivastava) Scientist E

#### Copy to: -

1

- The Additional Principal Chief Conservator of Forests, Ministry of Environment, Forest and Climate Change, Regional Office (Central Zone, Lucknow) Kendriya Bhavan, 5<sup>th</sup> Floor, Sector H, Aliganj, Lucknow - 226020
- 2. The Principal Secretary, Department of Environment, Government of Uttar Pradesh, Sachivalaya, Bapu Bhawan, Adjacent to Vidhan Sabha, Lucknow 226001 (UP)

- 3. The Member Secretary, Central Pollution Control Board Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, **Delhi** 32
- 4. The Member Secretary, Uttar Pradesh Pollution Control Board, PICUP Bhawan, Vibhuti Khand, Gomti Nagar, Lucknow (UP)
- 5. Monitoring Cell, Ministry of Environment, Forest and Climate change, Indira Paryavaran Bhawan, Jorbagh Road, **New Delhi**
- 6. Guard File/Record File/Notice Board

(S. K. Srivastava) Scientist E



#### UTTAR PRADESH POLLUTION CONTROL BOARD

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: 14112/UPPCB/Moradabad(UPPCBRO)/HWM/BHIM NAGAR/2021

Dated: 02/06/2021

To,

M/s DSM SUGAR ASMOLI DISTILLERY DIVISION
A-5 DSM SUGAR ASMOLI ASMOLI SAMBHAL UP,SHAMBHAL,244304

**Tehsil**:Sambhal

**District**:BHIM NAGAR

**Sub :-** Authorisation issued under the provisions of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016

- 1. Number of authorization and date of issue 14112 and 02/06/2021.
- 2. Reference of application (No. and date) 11715204 and 20/03/2021.
- 3. Mr MUKESH KASHYAP of M/s DSM SUGAR ASMOLI DISTILLERY DIVISION is hereby granted an authorization based on the enclosed signed inspection report for generation, collection, utilization, storage and disposal or any other use of hazardous or other wastes or both on the premises situated at A-5 DSM SUGAR ASMOLI ASMOLI SAMBHAL UP,SHAMBHAL, .

#### **Details of Authorisation**

S No.	Category of Hazardous Waste as per the Schedules I,II and III of these rules	Authorised mode of disposal or recycling or utilization or co-processing, etc.	Quantity(ton/annum)
1	Schedule I (Category 5.1)waste oil	TSDF/ Authorized Recyclers	12KL per annum

- 1. The authorization shall be valid for a period of 02/06/2026 from the date of issue of this letter
- 2. The authorization is subject to the following general and specific conditions (please specify any conditions that need to be imposed over and above general conditions, if any).

#### **A** General Conditions of Authorization -

- 1. The authorised person shall comply with the provisions of the Environment (Protection Act, 1986, and the rules made there under .
- 2. The authorisation or its renewal shall be produced for inspection at the request of an officer authorised by the State Pollution Board .
- 3. The person authorized shall not rent, lend, sell, transfer or otherwise transport the hazardous and other wastes except what is permitted through this authorization .
- 4. Any unauthorized change in personnel, equipment or working conditions as mentioned in the application by the person authorized shall constitute a breach of his authorisation .
- 5. The person authorised shall implement Emergency Response Procedure (ERP) for which this authorisation is being granted considering all site specific possible scenarios such as spillages, leakages, fire etc. and their possible impacts and also carry out mock drill in this regard at regular interval of time.

- 6. The person authorised shall comply with the provisions outlined in the Central Pollution Control Board guidelines on Implementing Liabilities for Environmental Damages due to Handling and Disposal of Hazardous Waste and penalty.
- 7. It is the duty of the authorised person to take prior permission of the State Pollution Control Board to close down the facility.
- 8. The imported hazardous and other wastes shall be fully insured for transit as well as for any accidental occurrence and its clean-up operation.
- 9. The record of consumption and fate of the imported hazardous and other wastes shall be maintained .
- 10. The hazardous and other waste which gets generated during recycling or reuse or recovery or pre-processing or utilisation of imported hazardous or other wastes shall be treated and disposed of as per specific conditions of authorisation.
- 11. The importer or exporter shall bear the cost of Import or export and mitigation of damages if any
- 12. An application for the renewal of an authorisation shall be made as laid down under these Rules .
- 13. Any other conditions for compliance as per the Guidelines issued by the Ministry of Environment, Forest and Climate Changes or Central Pollution Control Board from time to time.
- 14. Annual return shall be filed by June 30th for the period ensuring 31st March of the year .
- 15. The Unit will file the renewal application at least 2 months prior to the expiry of this Order.

### **B** Specific Conditions of Authorization

- 1. Unit shall ensure compliance of the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.
- 2. Unit shall comply with the provisions of Rule 19 of the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and send copy of Form 10 regarding Manifest for Hazardous and Other Wastes.
- 3. Unit shall comply with the provisions of Rule 20 of The Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and submit Annual Returns to State Board in Form IV.

( Authorized Signatory )

#### UTTAR PRADESH POLLUTION CONTROL BOARD

Copy to: To the Regional Officer, U.P.Pollution Control Board, MORADABAD for information and necessary action .



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#### ETRC/PM09/TEST-REP/FT/45

# TEST REPORT WATER & WASTE WATER ANALYSIS

Test Report Ref No.: ETRC/EPA/9467/2023	Date of Report: 14.10.2023
Name /Address/Type of Industry	Dhampur Bio Organics Limited
	(Formerly known DSM Sugar, Distillery Division)
	Unit: Asmoli, Division: Bio fuels & Sprit
	Village: Asmoli, Tehsil: Sambhal
	District: Sambhal (U.P.) - 244303

#### **SAMPLE DETAILS**

1	Water/ Waste Water	Ground Water	5	Packing Condition	Sealed
2	Sample Description	Borewell Water	6	Sample Collected By	Industry self
3	Sample received date	09.10.2023	7	Analysis Start Date	09.10.2023
4	Sample Quantity	5.0 liters	8	Analysis End Date	13.10.2023

#### **TEST RESULT**

Sr.	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing	Indian Standard 10500: 2012	
No	, oot i aramoto.				/limit of detection	Desirable	Permissible
			Physico-chemical Para				
1	Colour	Hazen	IS: 3025 (Part-4): 2021	<5.0	5 - 30	5	15
2	Odour	-	IS: 3025 (Part-5): 2018	Agreeable	Qualitative	Agreeable	Agreeable
3	pН	-	APHA 24 <sup>th</sup> Ed. 2023 - 4500 H <sup>+</sup>	7.5	1 - 14	6.5-8.5	No Relaxation
4	Turbidity	NTU	APHA 24 <sup>th</sup> Ed. 2023 - 2130 B	BDL	2 - 40	1	5
5	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 2023	384.8	10 - 5000	500	2000
6	Ammonia (as total ammonia-N)	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500-NH <sub>3</sub> F	BDL	0.5 - 2.0	0.5	No Relaxation
7	Anionic Detergents (as MBAS)	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 5540 C	BDL	0.05 - 0.5	0.2	1.0
8	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	51.2	2.0 - 600	75	200
9	Magnesium as Mg	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3500 Mg, B	26.24	0.1 - 200	30	100
10	Chloride as CI	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500-Cl <sup>-</sup> B	20.0	2.0 - 2000	250	1000
11	Fluoride as F	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500 F <sup>-</sup> C	0.28	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 <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	BDL	1.0 - 70	45	No Relaxation
14	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 5530 C	BDL	0.001 - 0.005	0.001	0.002
15	Sulphate as SO₄	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500- SO <sub>4</sub> <sup>2-</sup>	28.0	1.0 - 500	200	400
16	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 2320 B	268.0	2.0 - 1000	200	600
17	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 2340 C	236.0	5.0 - 800	200	600
18	Aluminium as Al	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	BDL	0.015 - 5.0	0.03	0.2
19	Boron as B	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	BDL	0.05 - 2.0	0.5	1.0
20	Copper as Cu	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5
21	Iron as Fe	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	0.17	0.05 - 20	0.3	No Relaxation



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Test Report Ref No.: ETRC/EPA/9467/2023

160	st Keport Ker No., t	_ 11\O/LI	70370112023				
22	Manganese as Mn	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	0.03	0.02 - 5.0	0.1	0.3
23	Zinc as Zn	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	0.78	0.05 - 15	5	15
24	Cadmium as Cd	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	BDL	0.003 - 2.0	0.003	No Relaxation
25	Lead as Pb	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
26	Mercury as Hg	μg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3112 B	BDL	0.5 - 1000	1.0	No Relaxation
27	Nickel as Ni	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	BDL	0.02 - 5.0	0.02	No Relaxation
28	Arsenic as As	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	BDL	0.02 - 2.0	0.01	0.05
29	Total Chromium	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 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	1.8 - 1600		e detected in any ml sample
31	T. coli	MPN/ 100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	1.8 - 1600	Shall not be	e detected in any

**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.

The result relate only to the items tested.

ETRC does not assume any liability for any claims or damages related to the quality of parameter analyzed in the results and/or the performance of the equipment
constituting to the results.

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Complain register is a allable in our laboratory.

Authorized Signatory (Sandeep Kr Verma) Lab-Incharge CHECKED CHECKED Research

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/EPA/9690/2023	Date of Report: 05.11.2023
Name /Address/Type of Industry	Dhampur Bio Organics Limited
	(Formerly known DSM Sugar, Distillery Division)
	Unit: Asmoli, Division: Bio fuels & Sprit
	Village: Asmoli, Tehsil: Sambhal
	District: Sambhal (U.P.) - 244303

#### **SAMPLE DETAILS**

1	Water/ Waste Water	Ground Water	5	Packing Condition	Sealed
2	Sample Description	Borewell Water	6	Sample Collected By	Industry self
3	Sample received date	01.11.2023	7	Analysis Start Date	01.11.2023
4	Sample Quantity	5.0 liters	8	Analysis End Date	05.11.2023

#### **TEST RESULT**

Sr.	Test Parameter	Test Parameter Unit Protocol/Test M		Result	Range of testing	Indian Standard 10500: 2012	
No					/limit of detection	Desirable	Permissible
			Physico-chemical Para	meters			
1	Colour	Hazen	IS: 3025 (Part-4): 2021	<5.0	5 - 30	5	15
2	Odour	-	IS: 3025 (Part-5): 2018	Agreeable	Qualitative	Agreeable	Agreeable
3	pH	-	APHA 24 <sup>th</sup> Ed. 2023 - 4500 H <sup>+</sup>	7.4	1 - 14	6.5-8.5	No Relaxation
4	Turbidity	NTU	APHA 24 <sup>th</sup> Ed. 2023 - 2130 B	BDL	2 - 40	1	5
5	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 2023	360.2	10 - 5000	500	2000
6	Ammonia (as total ammonia-N)	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500-NH <sub>3</sub> F	BDL	0.5 - 2.0	0.5	No Relaxation
7	Anionic Detergents (as MBAS)	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 5540 C	BDL	0.05 - 0.5	0.2	1.0
8	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	49.6	2.0 - 600	75	200
9	Magnesium as Mg	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3500 Mg, B	31.10	0.1 - 200	30	100
10	Chloride as CI	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500-Cl <sup>-</sup> B	24.0	2.0 - 2000	250	1000
11	Fluoride as F	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500 F <sup>-</sup> 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 <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	BDL	1.0 - 70	45	No Relaxation
14	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 5530 C	BDL	0.001 - 0.005	0.001	0.002
15	Sulphate as SO <sub>4</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500- SO <sub>4</sub> <sup>2-</sup>	30.0	1.0 - 500	200	400
16	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 2320 B	276.0	2.0 - 1000	200	600
17	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 2340 C	252.0	5.0 - 800	200	600
18	Aluminium as Al	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	BDL	0.015 - 5.0	0.03	0.2
19	Boron as B	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	BDL	0.05 - 2.0	0.5	1.0
20	Copper as Cu	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5
21	Iron as Fe	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	0.09	0.05 - 20	0.3	No Relaxation

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Test Report Ref No.: ETRC/EPA/9690/2023

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22	Manganese as Mn	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	0.08	0.02 - 5.0	0.1	0.3
23	Zinc as Zn	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	0.65	0.05 - 15	5	15
24	Cadmium as Cd	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	BDL	0.003 - 2.0	0.003	No Relaxation
25	Lead as Pb	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
26	Mercury as Hg	µg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3112 B	BDL	0.5 - 1000	1.0	No Relaxation
27	Nickel as Ni	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	BDL	0.02 - 5.0	0.02	No Relaxation
28	Arsenic as As	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	BDL	0.02 - 2.0	0.01	0.05
29	Total Chromium	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	BDL	0.03 - 5.0	0.05	No Relaxation
	11		Microbiological Param	eters			
30	E. coli	MPN/ 100 ml	IS: 1622 - 1981	Absent	1.8 - 1600		e detected in any
31	T. coli	MPN/ 100 ml	Reaffirmed: 2019 IS: 1622 - 1981 Reaffirmed: 2019	Absent	1.8 - 1600	Shall not be	ml sample 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.

The result relate only to the items tested.

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Authorized Signatory (Sandeep Kr Verma) Lab-Incharge CHECKED CHECKED CHARLES AND SEAL CHECKED

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/1612/12626/2023	Date of Report: 16.12.2023
Name /Address/Type of Industry	Dhampur Bio Organics Limited
	(Formerly known DSM Sugar, Distillery Division)
	Unit: Asmoli, Division: Bio fuels & Sprit
	Village: Asmoli, Tehsil: Sambhal
	District: Sambhal (U.P.) - 244303

#### **SAMPLE DETAILS**

1	Water/ Waste Water	Ground Water	5	Packing Condition	Sealed
2	Sample Description	Borewell Water	6	Sample Collected By	Industry self
3	Sample received date	11.12.2023	7	Analysis Start Date	11.12.2023
4	Sample Quantity	5.0 liters	8	Analysis End Date	15.12.2023

#### **TEST RESULT**

Sr.	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing	I.	Standard 0: 2012
No		Onic	Protocoli i est inietilod Result		/limit of detection	Desirable	Permissible
		,					
1	Colour	Hazen	IS: 3025 (Part-4): 2021	<5.0	5 - 30	5	15
2	Odour	-	IS: 3025 (Part-5): 2018	Agreeable	Qualitative	Agreeable	Agreeable
3	pH	-	APHA 24 <sup>th</sup> Ed. 2023 - 4500 H <sup>+</sup>	7.5	1 - 14	6.5-8.5	No Relaxation
4	Turbidity	NTU	APHA 24 <sup>th</sup> Ed. 2023 - 2130 B	BDL	2 - 40	1	5
5	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 2023	388.6	10 - 5000	500	2000
6	Ammonia (as total ammonia-N)	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500-NH <sub>3</sub> F	BDL	0.5 - 2.0	0.5	No Relaxation
7	Anionic Detergents (as MBAS)	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 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 24 <sup>th</sup> Ed. 2023 - 3500 Mg, B	30.13	0.1 - 200	30	100
10	Chloride as Cl	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500-Cl <sup>-</sup> B	32.0	2.0 - 2000	250	1000
11	Fluoride as F	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500 F <sup>-</sup> C	0.29	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 <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	BDL	1.0 - 70	45	No Relaxation
14	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 5530 C	BDL	0.001 - 0.005	0.001	0.002
15	Sulphate as SO <sub>4</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500- SO <sub>4</sub> <sup>2</sup> -	26.0	1.0 - 500	200	400
16	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 2320 B	296.0	2.0 - 1000	200	600
17	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 2340 C	264.0	5.0 - 800	200	600
18	Aluminium as Al	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	BDL	0.015 - 5.0	0.03	0.2
19	Boron as B	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	BDL	0.05 - 2.0	0.5	1.0
20	Copper as Cu	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5
21	Iron as Fe	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	0.05	0.05 - 20	0.3	No Relaxation



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Test Report Ref No.: ETRC/1612/12626/2023

		12/12020/2020	C)			
Manganese as Mn	mg/l	(ICP-OES)	0.04	0.02 - 5.0	0.1	0.3
Zinc as Zn	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	0.29	0.05 - 15	5	15
Cadmium as Cd	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	BDL	0.003 - 2.0	0.003	No Relaxation
Lead as Pb	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
Mercury as Hg	µg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3112 B	BDL	0.5 - 1000	1.0	No Relaxation
Nickel as Ni	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	BDL	0.02 - 5.0	0.02	No Relaxation
Arsenic as As	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	BDL	0.02 - 2.0	0.01	0.05
Total Chromium	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	BDL	0.03 - 5.0	0.05	No Relaxation
		Microbiological Param	eters			
E coli	MPN/	IS: 1622 - 1981	Ahsent	1.8 - 1600	Shall not be	e detected in any
	100 ml Reaffirmed: 2019	Absent	1.0 - 1000	100	ml sample	
T. coli	MPN/ 100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	1.8 - 1600	Shall not be	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	Zinc as Zn mg/l Cadmium as Cd mg/l Lead as Pb mg/l Mercury as Hg µg/l Nickel as Ni mg/l Arsenic as As mg/l Total Chromium mg/l  E. coli MPN/100 ml T. coli	Zinc as Zn   mg/l   APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)     Cadmium as Cd   mg/l   APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)     Lead as Pb   mg/l   APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)     Mercury as Hg   μg/l   APHA 24 <sup>th</sup> Ed. 2023 - 3112 B (ICP-OES)     Nickel as Ni   mg/l   APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)     Arsenic as As   mg/l   APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)     Total Chromium   mg/l   APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)     Total Chromium   mg/l   APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)     MPN/   IS: 1622 - 1981   Reaffirmed: 2019     Total Chromium   IS: 1622 - 1981   Reaffirmed: 2019     Total Chromium   MPN/   IS: 1622 - 1981     Total Chromium   MPN/   IS: 1622 - 1981     Total Chromium   MPN/   IS: 1622 - 1981	Manganese as Min   Mg/l   (ICP-OES)   0.04     Zinc as Zn   mg/l   APHA 24 <sup>th</sup> Ed. 2023 - 3120 B   (ICP-OES)     Cadmium as Cd   mg/l   APHA 24 <sup>th</sup> Ed. 2023 - 3120 B   (ICP-OES)     Lead as Pb   mg/l   APHA 24 <sup>th</sup> Ed. 2023 - 3120 B   (ICP-OES)     Mercury as Hg   µg/l   APHA 24 <sup>th</sup> Ed. 2023 - 3112 B   BDL     Nickel as Ni   mg/l   APHA 24 <sup>th</sup> Ed. 2023 - 3120 B   (ICP-OES)     APHA 24 <sup>th</sup> Ed. 2023 - 3120 B   (ICP-OES)     APHA 24 <sup>th</sup> Ed. 2023 - 3120 B   (ICP-OES)     APHA 24 <sup>th</sup> Ed. 2023 - 3120 B   (ICP-OES)     APHA 24 <sup>th</sup> Ed. 2023 - 3120 B   (ICP-OES)     BDL     Total Chromium   mg/l   APHA 24 <sup>th</sup> Ed. 2023 - 3120 B   (ICP-OES)     APHA 24 <sup>th</sup> Ed. 2023 - 3120 B   (ICP-OES)     APHA 24 <sup>th</sup> Ed. 2023 - 3120 B   (ICP-OES)     APHA 24 <sup>th</sup> Ed. 2023 - 3120 B   (ICP-OES)     APHA 24 <sup>th</sup> Ed. 2023 - 3120 B   (ICP-OES)     APHA 24 <sup>th</sup> Ed. 2023 - 3120 B   (ICP-OES)     APHA 24 <sup>th</sup> Ed. 2023 - 3120 B   (ICP-OES)     APHA 24 <sup>th</sup> Ed. 2023 - 3120 B   (ICP-OES)     APHA 24 <sup>th</sup> Ed. 2023 - 3120 B   (ICP-OES)     APHA 24 <sup>th</sup> Ed. 2023 - 3120 B   (ICP-OES)     APHA 24 <sup>th</sup> Ed. 2023 - 3120 B   (ICP-OES)     APHA 24 <sup>th</sup> Ed. 2023 - 3120 B   (ICP-OES)     APHA 24 <sup>th</sup> Ed. 2023 - 3120 B   (ICP-OES)     APHA 24 <sup>th</sup> Ed. 2023 - 3120 B   (ICP-OES)     APHA 24 <sup>th</sup> Ed. 2023 - 3120 B   (ICP-OES)     APHA 24 <sup>th</sup> Ed. 2023 - 3120 B   (ICP-OES)     APHA 24 <sup>th</sup> Ed. 2023 - 3120 B   (ICP-OES)     APHA 24 <sup>th</sup> Ed. 2023 - 3120 B   (ICP-OES)     APHA 24 <sup>th</sup> Ed. 2023 - 3120 B   (ICP-OES)     APHA 24 <sup>th</sup> Ed. 2023 - 3120 B   (ICP-OES)     APHA 24 <sup>th</sup> Ed. 2023 - 3120 B   (ICP-OES)     APHA 24 <sup>th</sup> Ed. 2023 - 3120 B   (ICP-OES)     APHA 24 <sup>th</sup> Ed. 2023 - 3120 B   (ICP-OES)     APHA 24 <sup>th</sup> Ed. 2023 - 3120 B   (ICP-OES)     APHA 24 <sup>th</sup> Ed. 2023 - 3120 B   (ICP-OES)     APHA 24 <sup>th</sup> Ed. 2023 - 3120 B   (ICP-OES)     APHA 24 <sup>th</sup> Ed. 2023 - 3120 B   (ICP-OES)     APHA 24 <sup>th</sup> Ed. 2023 - 3120 B   (ICP-OES)     APHA 24 <sup>th</sup> Ed. 2023 - 3120 B   (ICP-OES)     APHA 24 <sup>th</sup> Ed. 2023 - 3120 B   (ICP-OES)     APHA 24 <sup>th</sup> Ed. 2023 - 3120 B   (ICP-OES)     APHA 24 <sup>th</sup> Ed. 2023 -	Cadmium as Cd   mg/l   APHA 24 <sup>th</sup> Ed. 2023 - 3120 B   (ICP-OES)	Manganese as Min   Mg/l   (ICP-OES)   0.04   0.02 - 5.0   0.1     Zinc as Zn   mg/l   APHA 24 Ed. 2023 - 3120 B   (ICP-OES)   0.29   0.05 - 15   5     Cadmium as Cd   mg/l   APHA 24 Ed. 2023 - 3120 B   BDL   0.003 - 2.0   0.003     Lead as Pb   mg/l   APHA 24 Ed. 2023 - 3120 B   BDL   0.01 - 10   0.01     Mercury as Hg   µg/l   APHA 24 Ed. 2023 - 3112 B   BDL   0.5 - 1000   1.0     Nickel as Ni   mg/l   APHA 24 Ed. 2023 - 3120 B   BDL   0.02 - 5.0   0.02     Arsenic as As   mg/l   APHA 24 Ed. 2023 - 3120 B   BDL   0.02 - 2.0   0.01     Total Chromium   mg/l   APHA 24 Ed. 2023 - 3120 B   BDL   0.03 - 5.0   0.05     Microbiological Parameters   BDL   0.03 - 5.0   0.05     Total Chromium   MPN/

**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.

The result relate only to the items tested.

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Complain register is available in our laboratory.

Authorized Signatory (Sandeep Kr Verma) Lab-Incharge CHECKED CHECKED CHECKED

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/1801/12627/2024	<b>Date of Report:</b> 18.01.2024
Name /Address/Type of Industry	Dhampur Bio Organics Limited
	(Formerly known DSM Sugar, Distillery Division)
	Unit: Asmoli, Division: Bio fuels & Sprit
	Village: Asmoli, Tehsil: Sambhal
	District: Sambhal (U.P.) - 244303

#### **SAMPLE DETAILS**

1	Water/ Waste Water	Ground Water	5	Packing Condition	Sealed
2	Sample Description	Borewell Water	6	Sample Collected By	Industry self
3	Sample received date	12.01.2024	7	Analysis Start Date	12.01.2024
4	Sample Quantity	5.0 liters	8	Analysis End Date	17.01.2024

#### **TEST RESULT**

Sr.	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing		Standard 0: 2012
No	rest Parameter	Onit			/limit of detection	Desirable	Permissible
			Physico-chemical Parai	meters			
1	Colour	Hazen	IS: 3025 (Part-4): 2021	<5.0	5 - 30	5	15
2	Odour	-	IS: 3025 (Part-5): 2018	Agreeable	Qualitative	Agreeable	Agreeable
3	рН	-	APHA 24 <sup>th</sup> Ed. 2023 - 4500 H <sup>+</sup>	7.5	1 - 14	6.5-8.5	No Relaxation
4	Turbidity	NTU	APHA 24 <sup>th</sup> Ed. 2023 - 2130 B	BDL	2 - 40	1	5
5	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 2023	402.8	10 - 5000	500	2000
6	Ammonia (as total ammonia-N)	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500-NH <sub>3</sub> F	BDL	0.5 - 2.0	0.5	No Relaxation
7	Anionic Detergents (as MBAS)	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 5540 C	BDL	0.05 - 0.5	0.2	1.0
8	Calcium as Ca	mg/l	IS: 3025 (Part-40): 1991 Reaffirmed: 2019	52.8	2.0 - 600	75	200
9	Magnesium as Mg	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3500 Mg, B	28.18	0.1 - 200	30	100
10	Chloride as Cl	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500-Cl <sup>-</sup> B	24.0	2.0 - 2000	250	1000
11	Fluoride as F	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500 F <sup>-</sup> C	0.33	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 <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	BDL	1.0 - 70	45	No Relaxation
14	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 5530 C	BDL	0.001 - 0.005	0.001	0.002
15	Sulphate as SO <sub>4</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500- SO <sub>4</sub> <sup>2-</sup>	30.0	1.0 - 500	200	400
16	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 2320 B	288.0	2.0 - 1000	200	600
17	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 2340 C	248.0	5.0 - 800	200	600
18	Aluminium as Al	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	BDL	0.015 - 5.0	0.03	0.2
19	Boron as B	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	BDL	0.05 - 2.0	0.5	1.0
20	Copper as Cu	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5
21	Iron as Fe	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	0.09	0.05 - 20	0.3	No Relaxation

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22	Manganese as Mn	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	0.03	0.02 - 5.0	0.1	0.3
23	Zinc as Zn	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	0.14	0.05 - 15	5	15
24	Cadmium as Cd	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	BDL	0.003 - 2.0	0.003	No Relaxation
25	Lead as Pb	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
26	Mercury as Hg	µg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3112 B	BDL	0.5 - 1000	1.0	No Relaxation
27	Nickel as Ni	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	BDL	0.02 - 5.0	0.02	No Relaxation
28	Arsenic as As	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	BDL	0.02 - 2.0	0.01	0.05
29	Total Chromium	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	BDL	0.03 - 5.0	0.05	No Relaxation
			Microbiological Param	eters			119
30	E. coli	MPN/ 100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	1.8 - 1600		e detected in any ml sample
31	T. coli	MPN/ 100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	1.8 - 1600	Shall not be	e detected in any ml sample

BDL=Below Detection Limit

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

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Authorized Signatory (Sandeep Kr Verma) Lab-Incharge CHECKED CHECKED CHECKED

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/1602/12628/2024	Date of Report: 16.02.	<b>Date of Report:</b> 16.02.2024				
Nan	ne /Address/Type of Industry	Dhampur Bio Organics Limited					
		(Formerly known DSM S	Sugar, Distillery Division)				
		Unit: Asmoli, Division					
		Village: Asmoli, Tehsi	l: Sambhal				
		District: Sambhal (U.P					
Mon	itored by	ETRC, Lucknow					
Loca	ation of Sampling points	Near Main Gate					
1	GENERAL OBSERVATIONS	DETAILS-PM <sub>10</sub>	DETAILS-PM <sub>2,5</sub>				
(a)	Weather conditions	Clear	Clear				
(b)	Wind direction	West to East	West to East				
(c)	Average humidity (%)	52	52				
(d)	Average ambient temperature (°C)	18	18				
(e)	Time of Sampling Started (Hours)	09:48 am (08/02/2024)	09:48 am (08/02/2024)				
(f)	Time of Sampling completed (Hours)	09:22 am (09/02/2024)	09:22 am (09/02/2024)				
(g)	Total time of sampling (minutes)	24 hour (1411 minutes)	24 hour (1411 minutes)				
2	Average sampling rate for PM (m³/minute)	1.150	NA				
3	Average sampling rate for gas (LPM)	0.5	NA				
4	TOTAL VOLUME OF AIR SAMPLED						
	• PM (m <sup>3</sup> )	• 1622.880	• 23.515				
	GAS (liter)	• 705.6					

#### **TEST RESULT**

S. 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 <sub>10</sub> )	IS: 5182 (Part - 23): 2006 Reaffirmed: 2022	µg/m³	88.4	5.0 - 1200	For 24 hour =100
2	Particulate matters size less than 2.5 µm (PM <sub>2.5</sub> )	IS: 5182 (Part - 24): 2019	µg/m³	53.58	2.0 - 500	For 24 hour =60
3	Sulphur Dioxide (SO <sub>2</sub> )	IS: 5182 (Part - 2): 2001 Reaffirmed: 2022	µg/m³	14.98	5.0 - 1050	For 24 hour =80
4	Oxides of Nitrogen (NO <sub>X</sub> )	IS: 5182 (PART - 6): 2006 Reaffirmed: 2022	µg/m³	22.15	6.0- 750	For 24 hour =80

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

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attempt to generate accurate results for the sample, mentioned in the report as above.

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Authorized Signatory (Sandeep Kr Verma) Lab-Incharge



Authorized Signatory (Ritu Garg) OM

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#### ETRC/PM09/TEST-REP/FT/42

# TEST REPORT AMBIENT AIR QUALITY MONITORING REPORT

Test	: Report Ref No.: ETRC/1602/12629/2024	<b>Date of Report:</b> 16.02.2024				
Nan	ne /Address/Type of Industry	Dhampur Bio Organics Limited				
		(Formerly known DSM S	ugar, Distillery Division)			
		Unit: Asmoli, Division	: Bio fuels & Sprit			
		Village: Asmoli, Tehsi	l: Sambhal			
		District: Sambhal (U.P	.) - 244303			
Mon	itored by	ETRC, Lucknow				
Loca	ation of Sampling points	Near Boiler	·			
1	GENERAL OBSERVATIONS	DETAILS-PM <sub>10</sub>	DETAILS-PM <sub>2.5</sub>			
(a)	Weather conditions	Clear	Clear			
(b)	Wind direction	West to East	West to East			
(c)	Average humidity (%)	52	52			
(d)	Average ambient temperature (°C)	18	18			
(e)	Time of Sampling Started (Hours)	10:05 am (08/02/2024)	10:05 am (08/02/2024)			
(f)	Time of Sampling completed (Hours)	09:43 am (09/02/2024)	09:43 am (09/02/2024)			
(g)	Total time of sampling (minutes)	24 hour (1403 minutes)	24 hour (1403 minutes)			
2	Average sampling rate for PM (m <sup>3</sup> /minute)	1.135	NA			
3	Average sampling rate for gas (LPM)	0.5	NA			
4	TOTAL VOLUME OF AIR SAMPLED					
	• PM (m³)	• 1592.859	• 23.385			
	GAS (liter)	• 701.7				

#### **TEST RESULT**

S. 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 <sub>10</sub> )	IS: 5182 (Part - 23): 2006 Reaffirmed: 2022	µg/m³	79.4	5.0 - 1200	For 24 hour =100
2	Particulate matters size less than 2.5 µm (PM <sub>2.5</sub> )	IS: 5182 (Part - 24): 2019	µg/m³	48.75	2.0 - 500	For 24 hour =60
3	Sulphur Dioxide (SO <sub>2</sub> )	IS: 5182 (Part - 2): 2001 Reaffirmed: 2022	μg/m³	13.22	5.0 - 1050	For 24 hour =80
4	Oxides of Nitrogen (NO <sub>X</sub> )	IS: 5182 (PART - 6): 2006 Reaffirmed: 2022	µg/m³	20.58	6.0- 750	For 24 hour =80

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

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Authorized Signatory (Sandeep Kr Verma) Lab-Incharge



Authorized Signatory (Ritu Garg)



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#### ETRC/PM09/TEST-REP/FT/42

# TEST REPORT AMBIENT AIR QUALITY MONITORING REPORT

Test Report Ref No.: ETRC/1602/12630/2024				
Nan	ne /Address/Type of Industry	Dhampur Bio Organics Limited		
	-	(Formerly known DSM S	Sugar, Distillery Division)	
		Unit: Asmoli, Division	: Bio fuels & Sprit	
		Village: Asmoli, Tehsi	l: Sambhal	
		District: Sambhal (U.P	<sup>2</sup> .) - 244303	
Mon	itored by	ETRC, Lucknow		
Loc	ation of Sampling points	Near Gahre Ki Madaiy	an	
1	GENERAL OBSERVATIONS	DETAILS-PM <sub>10</sub>	DETAILS-PM <sub>2.5</sub>	
(a)	Weather conditions	Clear	Clear	
(b)	Wind direction	West to East	West to East	
(c)	Average humidity (%)	54	54	
(d)	Average ambient temperature (°C)	19	19	
(e)	Time of Sampling Started (Hours)	09:40 am (09/02/2024)	09:40 am (09/02/2024)	
(f)	Time of Sampling completed (Hours)	09:21 am (10/02/2024)	09:21 am (10/02/2024)	
(g)	Total time of sampling (minutes)	24 hour (1408 minutes)	24 hour (1408 minutes)	
2	Average sampling rate for PM (m³/minute)	1.165	NA	
3	Average sampling rate for gas (LPM)	0.5	NA	
4	TOTAL VOLUME OF AIR SAMPLED			
	• PM (m <sup>3</sup> )	• 1639.854	• 23.459	
	GAS (liter)	• 703.8		

#### **TEST RESULT**

S. 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 <sub>10</sub> )	IS: 5182 (Part - 23): 2006 Reaffirmed: 2022	µg/m³	75.9	5.0 - 1200	For 24 hour =100
2	Particulate matters size less than 2.5 µm (PM <sub>2.5</sub> )	IS: 5182 (Part - 24): 2019	µg/m³	47.32	2.0 - 500	For 24 hour =60
3	Sulphur Dioxide (SO <sub>2</sub> )	IS: 5182 (Part - 2): 2001 Reaffirmed: 2022	µg/m³	13.42	5.0 - 1050	For 24 hour =80
4	Oxides of Nitrogen (NO <sub>x</sub> )	IS: 5182 (PART - 6): 2006 Reaffirmed: 2022	µg/m³	19.85	6.0- 750	For 24 hour =80

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

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#### ETRC/PM09/TEST-REP/FT/42

# TEST REPORT AMBIENT AIR QUALITY MONITORING REPORT

Test	Report Ref No.: ETRC/1602/12631/2024	Date of Report: 16.02.	2024			
Nan	ne /Address/Type of Industry	Dhampur Bio Organics Limited (Formerly known DSM Sugar, Distillery Division)				
		Unit: Asmoli, Division				
		Village: Asmoli, Tehsi				
		District: Sambhal (U.P.) - 244303 ETRC, Lucknow				
	itored by					
Loca	ation of Sampling points	Near Village: Asmoli				
1	GENERAL OBSERVATIONS	DETAILS-PM <sub>10</sub>	DETAILS-PM <sub>2.5</sub>			
(a)	Weather conditions	Clear	Clear			
(b)	Wind direction	West to East	West to East			
(c)	Average humidity (%)	54	54			
(d)	Average ambient temperature (°C)	19	19			
(e)	Time of Sampling Started (Hours)	09:55 am (09/02/2024)	09:55 am (09/02/2024)			
(f)	Time of Sampling completed (Hours)	09:38 am (10/02/2024)	09:38 am (10/02/2024)			
(g)	Total time of sampling (minutes)	24 hour (1409 minutes)	24 hour (1409 minutes)			
2	Average sampling rate for PM (m³/minute)	1.160	NA			
3	Average sampling rate for gas (LPM)	0.5	NA			
4	TOTAL VOLUME OF AIR SAMPLED					
	<ul> <li>PM (m<sup>3</sup>)</li> </ul>	• 1634.208	• 23.473			
	GAS (liter)	• 704.4				

#### **TEST RESULT**

S. 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 <sub>10</sub> )	IS: 5182 (Part - 23): 2006 Reaffirmed: 2022	µg/m³	76.3	5.0 - 1200	For 24 hour =100
2	Particulate matters size less than 2.5 µm (PM <sub>2.5</sub> )	IS: 5182 (Part - 24): 2019	µg/m³	46.01	2.0 - 500	For 24 hour =60
3	Sulphur Dioxide (SO <sub>2</sub> )	IS: 5182 (Part - 2): 2001 Reaffirmed: 2022	µg/m³	12.49	5.0 - 1050	For 24 hour =80
4	Oxides of Nitrogen (NO <sub>x</sub> )	IS: 5182 (PART - 6): 2006 Reaffirmed: 2022	µg/m³	17.55	6.0- 750	For 24 hour =80

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Authorized Signatory (Ritu Garg)



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#### ETRC/PM09/TEST-REP/FT/43

## TEST REPORT STACK EMISSION MONITORING AND ANALYSIS REPORT

	Report Ref No.: ETRC/1602/12632/2024	Date of Report: 16.02.2024
Name	/Address/Type of Industry	Dhampur Bio Organics Limited
		(Formerly known DSM Sugar, Distillery Division)
		Unit: Asmoli, Division: Bio fuels & Sprit
		Village: Asmoli, Tehsil: Sambhal
		District: Sambhal (U.P.) - 244303
	pred by	ETRC, Lucknow
Sr. No.	GENERAL INFORMATION	DETAILS
1.(a)	Date of monitoring	08.02.2024
(b)	Stack material	RCC
(c)	Height of stack from ground level	70.0 mts
(d)	Source to which stack attached	Boiler
(e)	No of Source attached with capacity	01 No., 35 TPH
(f)	Type of fuel used	Bagasse & Conc. Spent Wash
(g)	Details of APCS installed	Bag Filter
2.	PARAMETERS	VALUES
(a)	Ambient temperature (°C)	20.0
(b)	Stack gas temperature (°C)	138.0
(c)	Stack gas velocity (m/sec)	11.81
(d)	Flow rate (LPM)	16
(e)	Sampling time (minutes)	65
(f)	Volume of air sampled (liters)	1040

#### **TEST RESULT**

Sr. No.	Parameter	Unit	Protocol	Result	Range of Testing/ Limit of Detection	Standard (as per CPCB)
1	Particulate Matter	mg/Nm <sup>3</sup>	IS: 11255 (Part-1): 1985 Reaffirmed: 2019	44.53	2.0 - 1000	150

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Authorized Signatory (Ritu Garg) OM



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#### ETRC/PM09/TEST-REP/FT/43

# TEST REPORT STACK EMISSION MONITORING AND ANALYSIS REPORT

Test F	Report Ref No.: ETRC/1602/12633/2024	Date of Report: 16.02.2024
Name	/Address/Type of Industry	Dhampur Bio Organics Limited
		(Formerly known DSM Sugar, Distillery Division)
		Unit: Asmoli, Division: Bio fuels & Sprit
		Village: Asmoli, Tehsil: Sambhal
		District: Sambhal (U.P.) - 244303
Monito	ored by	ETRC, Lucknow
Sr. No.	GENERAL INFORMATION	DETAILS
1.(a)	Date of monitoring	09.02.2024
(b)	Stack material	RCC
(c)	Height of stack from ground level	77.0 mts
(d)	Source to which stack attached	Boiler
(e)	No of Source attached with capacity	01 No., 45 TPH
(f)	Type of fuel used	Bagasse & Conc. Spent Wash
(g)	Details of APCS installed	ESP
2.	PARAMETERS	VALUES
(a)	Ambient temperature (°C)	19.0
(b)	Stack gas temperature (°C)	141.0
(c)	Stack gas velocity (m/sec)	11.86
(d)	Flow rate (LPM)	16
(e)	Sampling time (minutes)	63
(f)	Volume of air sampled (liters)	1008

#### **TEST RESULT**

Sr. No.	Parameter	Unit	Protocol	Result	Range of Testing/ Limit of Detection	Standard (as per CPCB)
1	Particulate Matter	mg/Nm <sup>3</sup>	IS: 11255 (Part-1): 1985 Reaffirmed: 2019	45.12	2.0 - 1000	150

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#### ETRC/PM09/TEST-REP/FT/44

# TEST REPORT AMBIENT NOISE MONITORING AND ANALYSIS REPORT

Test Re	port Ref No.: ETRC/1602/12634/2024	Date of Report: 16.02.2024		
Name //	Address/Type of Industry	Dhampur Bio Organics Limited (Formerly known DSM Sugar, Distillery Divisi Unit: Asmoli, Division: Bio fuels & Sprit Village: Asmoli, Tehsil: Sambhal District: Sambhal (U.P.) - 244303		
Monitore	ed by	ETRC, Lucknow		
Sr. No.	GENERAL INFORMATION	DETAILS		
(a)	Date of monitoring	09/02/2024 (06.00 AM) to 10/02/2024 (06.00 AM)		
(b)	Sample Description	Ambient Noise		
(c)	Sampling Location	Within Plant Premises		
(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)	61.48	49.25			

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

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#### ETRC/PM09/TEST-REP/FT/45

# TEST REPORT WATER & WASTE WATER ANALYSIS

Test Report Ref No.: ETRC/1602/12635/2024	Date of Report: 16.02.2024
Name /Address/Type of Industry	Dhampur Bio Organics Limited
	(Formerly known DSM Sugar, Distillery Division)
	Unit: Asmoli, Division: Bio fuels & Sprit
	Village: Asmoli, Tehsil: Sambhal
	District: Sambhal (U.P.) - 244303

#### SAMPLE DETAILS

1	Water/ Waste Water	Ground Water	5	Packing Condition	Sealed
2	Sample Description	Borewell Water	6	Sample Collected By	ETRC
3	Sample received date	10.02.2024	7	Analysis Start Date	10.02.2024
4	Sample Quantity	5.0 liters	8	Analysis End Date	15.02.2024

#### **TEST RESULT**

Sr.	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing		Standard 0: 2012
No	root i didiliotoi	J. T.			/limit of detection	Desirable	Permissible
			Physico-chemical Para				
1	Colour	Hazen	IS: 3025 (Part-4): 2021	<5.0	5 - 30	5	15
2	Odour	-	IS: 3025 (Part-5): 2018	Agreeable	Qualitative	Agreeable	Agreeable
3	рН	-	APHA 24 <sup>th</sup> Ed. 2023 - 4500 H <sup>+</sup>	7.4	1 - 14	6.5-8.5	No Relaxation
4	Turbidity	NTU	APHA 24 <sup>th</sup> Ed. 2023 - 2130 B	BDL	2 - 40	1	5
5	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 2023	374.6	10 - 5000	500	2000
6	Ammonia (as total ammonia-N)	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500-NH <sub>3</sub> F	BDL	0.5 - 2.0	0.5	No Relaxation
7	Anionic Detergents (as MBAS)	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 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 24 <sup>th</sup> Ed. 2023 - 3500 Mg, B	28.18	0.1 - 200	30	100
10	Chloride as Cl	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500-Cl <sup>-</sup> B	28.0	2.0 - 2000	250	1000
11	Fluoride as F	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500 F <sup>-</sup> C	0.34	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 <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	BDL	1.0 - 70	45	No Relaxation
14	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 5530 C	BDL	0.001 - 0.005	0.001	0.002
15	Sulphate as SO <sub>4</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500- SO <sub>4</sub> <sup>2-</sup>	24.0	1.0 - 500	200	400
16	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 2320 B	284.0	2.0 - 1000	200	600
17	Total Hardness as CaCO₃	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 2340 C	256.0	5.0 - 800	200	600
18	Aluminium as Al	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B '(ICP-OES)	BDL	0.015 - 5.0	0.03	0.2
19	Boron as B	mg/i	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	BDL	0.05 - 2.0	0.5	1.0
20	Copper as Cu	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5
21	Iron as Fe	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	0.11	0.05 - 20	0.3	No Relaxation



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Test Report Ref No.: ETRC/1602/12635/2024

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22	Manganese as Mn	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	0.03	0.02 - 5.0	0.1	0.3
23	Zinc as Zn	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	0.55	0.05 - 15	5	15
24	Cadmium as Cd	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	BDL	0.003 - 2.0	0.003	No Relaxation
25	Lead as Pb	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
26	Mercury as Hg	μg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3112 B	BDL	0.5 - 1000	1.0	No Relaxation
27	Nickel as Ni	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	BDL	0.02 - 5.0	0.02	No Relaxation
28	Arsenic as As	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	BDL	0.02 - 2.0	0.01	0.05
29	Total Chromium	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 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	1.8 - 1600		e detected in any ml sample
31	T. coli	MPN/ 100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	1.8 - 1600	Shall not be	e detected in any ml sample

**BDL=Below Detection Limit** 

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#### ETRC/PM09/TEST-REP/FT/46

## TEST REPORT SOIL ANALYSIS

Test Report Ref No.: ETRC/1602/12636/2024	<b>Date of Report:</b> 16.02.2024
Name /Address/Type of Industry	Dhampur Bio Organics Limited
	(Formerly known DSM Sugar, Distillery Division)
	Unit: Asmoli, Division: Bio fuels & Sprit
	Village: Asmoli, Tehsil: Sambhal
	District: Sambhal (U.P.) - 244303

#### **SAMPLE DETAILS**

1	Sampling Location	Plant Premises	5	Packing Condition	Sealed
2	Sample Description	Soil	6	Sample Collected By	ETRC
3	Sample received date	10.02.2024	7	Analysis Start Date	10.02.2024
4	Sample Quantity	1.0 kg	8	Analysis End Date	15.02.2024

#### **TEST RESULT**

Sr. No.	Test Parameter	Unit	Protocol/Test Method	Result	Range of testing / limit of detection
1	pH	-	IS: 2720 (Part-26):1987 Reaffirmed:2021	7.4	1 - 14
2	Electrical Conductivity	μS/cm	IS: 14767:2000 Reaffirmed:2021	298.0	1 - 40000
3	Moisture Contents	%	IS: 2720 (Part -2):1973 Reaffirmed:2020	3.04	1.0 - 50
4	Nitrate as N	kg/Hec	Method Manual of Soil Testing in Inda	216.4	5.0 - 500
5	Phosphorus (as P <sub>2</sub> O <sub>5</sub> )	kg/Hec	Method Manual of Soil Testing in Inda	18.6	1 - 2000
6	Potash as K₂O	kg/Hec	Method Manual of Soil Testing in Inda	148.0	1.0 - 2000
7	Copper as Cu	mg/kg	Method Manual of Soil Testing in Inda	0.41	0.3 - 500
8	Zinc as Zn	mg/kg	Method Manual of Soil Testing in Inda	10.28	1.0 - 500
9	Iron as Fe	mg/kg	Method Manual of Soil Testing in Inda	106.8	5.0 - 500
10	Manganese as Mn	mg/kg	Method Manual of Soil Testing in Inda	9.2	5.0 - 500
11	Sulphur	mg/kg	IS: 14685:1999 Reaffirmed:2019	11.6	5.0 - 100

Method Manual of Soil Testing in India (Department of Agriculture and Corporation Ministry of Agriculture, Government of India), 4.6.3 (16b): 2022
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Complain register is available in our laboratory.

Authorized Signatory (Sandeep Kr Verma) Lab-Incharge Authorized Signatory (Ritu Garg)



Office & Laboratory: 2/261, Vishwas Khand, Gomti Nagar, Lucknow - 226 010 (U.P.)

Email: ETRCLTH@YAHOO.IN, Web.: www.etrcindia.com

(ISO 9001:2015, ISO 45001:2018 (OH&S) ISO 14001:2015)

An approved laboratory from Ministry of Environment, Forest and Climate change, Govt. of India under EPA 1986

#### ETRC/PM09/TEST-REP/FT/45

# TEST REPORT WATER & WASTE WATER ANALYSIS

Test Report Ref No.: ETRC/EPA/10710/2024	Date of Report: 19.03.2024
Name /Address/Type of Industry	Dhampur Bio Organics Limited
	(Formerly known DSM Sugar, Distillery Division)
	Unit: Asmoli, Division: Bio fuels & Sprit
	Village: Asmoli, Tehsil: Sambhal
	District: Sambhal (U.P.) - 244303

#### **SAMPLE DETAILS**

1	Water/ Waste Water	Ground Water	5	Packing Condition	Sealed
2	Sample Description	Borewell Water	6	Sample Collected By	Industry self
3	Sample received date	14.03.2024	7	Analysis Start Date	14.03.2024
4	Sample Quantity	5.0 liters	8	Analysis End Date	18.03.2024

#### **TEST RESULT**

Sr.	Test Parameter	est Parameter Unit Protocol/Test Method	Protocol/Test Method	Result	Range of testing	Indian Standard 10500: 2012	
No		Onit			/limit of detection	Desirable	Permissible
			Physico-chemical Parai				
1	Colour	Hazen	IS: 3025 (Part-4): 2021	<5.0	5 - 30	5	15
2	Odour	-	IS: 3025 (Part-5): 2018	Agreeable	Qualitative	Agreeable	Agreeable
3	рН	-	APHA 24 <sup>th</sup> Ed. 2023 - 4500 H <sup>+</sup>	7.5	1 - 14	6.5-8.5	No Relaxation
4	Turbidity	NTU	APHA 24 <sup>th</sup> Ed. 2023 - 2130 B	BDL	2 - 40	1	5
5	Total Dissolved Solids (TDS)	mg/l	IS: 3025 (Part-16): 2023	380.0	10 - 5000	500	2000
6	Ammonia (as total ammonia-N)	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500-NH <sub>3</sub> F	BDL	0.5 - 2.0	0.5	No Relaxation
7	Anionic Detergents (as MBAS)	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 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 24 <sup>th</sup> Ed. 2023 - 3500 Mg, B	27.21	0.1 - 200	30	100
10	Chloride as Cl	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500-Cl <sup>-</sup> B			250	1000
11	Fluoride as F	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500 F <sup>-</sup> C	0.45	2.0 - 2000 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 <sub>3</sub>	mg/l	IS: 3025 (Part-34): 1986 Reaffirmed: 2019	BDL	1.0 - 70	45	No Relaxation
14	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 5530 C	BDL.	0.001 - 0.005	0.001	0.002
15	Sulphate as SO <sub>4</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 4500- SO <sub>4</sub> <sup>2-</sup>	22.0	1.0 - 500	200	400
16	Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 2320 B	272.0	2.0 - 1000	200	600
17	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 2340 C	248.0	5.0 - 800	200	600
18	Aluminium as Al	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	BDL	0.015 - 5.0	0.03	0.2
19	Boron as B	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OÉS)	BDL	0.05 - 2.0	0.5	1.0
20	Copper as Cu	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	BDL	0.03 - 10	0.05	1.5
21	Iron as Fe	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	0.14	0.05 - 20	0.3	No Relaxation

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Test Report Ref No.: ETRC/EPA/10710/2024

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22	Manganese as Mn	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	0.05	0.02 - 5.0	0.1	0.3
23	Zinc as Zn	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	0.26	0.05 - 15	5	15
24	Cadmium as Cd	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	BDL	0.003 - 2.0	0.003	No Relaxation
25	Lead as Pb	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	BDL	0.01 - 10	0.01	No Relaxation
26	Mercury as Hg	µg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3112 B	BDL	0.5 - 1000	1.0	No Relaxation
27	Nickel as Ni	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	BDL	0.02 - 5.0	0.02	No Relaxation
28	Arsenic as As	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 3120 B (ICP-OES)	BDL	0.02 - 2.0	0.01	0.05
29	Total Chromium	mg/l	APHA 24 <sup>th</sup> Ed. 2023 - 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	1.8 - 1600		e detected in any ml sample
31	T. coli	MPN/ 100 ml	IS: 1622 - 1981 Reaffirmed: 2019	Absent	1.8 - 1600		e detected in any

**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.

The result relate only to the items tested.

• ETRC does not assume any liability for any claims or damages related to the quality of parameter analyzed in the results and/or the performance of the equipment constituting to the results.

All disputes subject to Lucknow jurisdiction.

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special permission in writing.

Complain register is available in our laboratory.

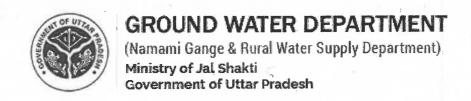
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Authorized Signatory (Sandeep Kr Verma) Lab-Incharge CHECKED CHECKED

Authorized Signatory (Ritu Garg) QM

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Form 3 (B)

(Commercial or Industrial or Infrastructural or Bulk user having N.O.C. issued by Central Ground Water Authority or by Ground Water Department)

[See Rule 8(2)]

### **Certificate Of Registration Of Existing/New Well**

(UIS10(1) of the Uttar Pradesh Ground Water Management and Regulation Act, 2019)

Registration No.: 202102000	J3/6		
Name of the Owner	MUKESH KASHYAP		
Address of the Applicant	VILLAGE POST ASMOLI	Application Form Serial No.	SMBL0221RIN0012
Date of Submission	20/02/2021	Specimen Signature	
Company Name	DSM SUGAR ASMOLI DISTILLERY DIVISION	Company Address	vill - Asmoli, Block - Amo District - Smabhal (
NOC Issued By: अनापत्ति प्रमाण पत्र (द्वारा निर्गत)			
Central Ground Water Authority केन्द्रीय भूगर्भ जल प्राधिकरण			Yes
Certificate Number प्रमाणपत्र संख्या	23/NR/CGWA/2005/1115	Issue Date निर्गमन तिथि	10/06/2016
Expiry Date अंतिम तिथि	20/02/2021		<i>u</i>
Ground Water Department Uttar भूगर्भ जल विभाग उत्तर प्रदेश सरकार	Pradesh		No
ocation Particulars		7 4	
District	Sambhal	Block	ASMOLI
Plot No./Khasra No.	existing Premises details attached	Municipality/Corporation	NA
Ward No./Holding No.	×	:	NA
Particular of the Existing W	ell and Pumping Device		8
Date of Construction/Sinking of he Well	01/04/2008	• 1	
ype of Well	Tube Well/Boring	Depth of the Well (in meter)	90.00
Purpose of well	Industrial	Assembly Size(For Tube Well)	
Strainer Position (For Tube Well)			
ype of Pump Used	Submersible	H.P. of the Pump	50.00
Operational Device	Electric Motor	Rate of Withdrawal (m <sup>3</sup> /hr.)	168.00
ate of Energization (In Case of I	Electric Pump)	01/04/2008	
/aximum Allowable Rate of Vithdrawal (m³/hr.):	168.00	Maximum Allowable Running Hours Per Day:	12.00

This certificate of registration is issued on the basis of the information furnished by the applicant subject to the conditions stated overleaf.

- 1. For the purpose of measuring and recording the quantity of ground water extracted, every said user shall affix water meters, which record rate and quantum of extraction, at outlet of pumping devices and it shall be presumed that the quantity recorded by the meter has been extracted by the said user, until the contrary is proved. The rate of extraction of ground water from the well as shown in item 3(k) shall not exceed to the recorded rate from water meters.
- 2. The District Ground Water Management Council reserves the right to stop extraction of ground water from the well due to quality hazards or any other reasons, if the situation so demands.
- 3. In case of any change of ownership of the existing well, fresh registration has to be obtained.
- 4. No change of location, design, rate of withdrawal and pumping device in respect of the existing well as indicated at SI. (2) and (3) of this certificate shall be made without prior permission of the District Ground Water Management Council. Any deviation in this regard shall lead to cancellation of this registration.
- 5. In case, any of the particulars / information furnished by the applicant in his application for issuance of this registration is found to be incorrect during verification at any subsequent stage, this registration is liable for cancellation.
- 6. Construction of piezometers and installation of digital water level recorders with telemetry shall be mandatory for user. Depth and zone tapped of piezometer should be commensurate with that of the pumping well. The data, obtained from digital water level recorders shall be made available to this office on monthly basis.
- 7. Guidelines for Installation of Piezometers and their Monitoring

Piezometer is a borewell /tubewell used only for measuring the water level by lowering the tape/ sounder or automatic water level measuring equipment. It is also used to take water sample for water quality testing whenever needed. General guidelines for installation of piezometers are as follows:

- The piezometer is to be installed/constructed at the minimum of 50 m distance from the pumping well through which ground water is being withdrawn. The diameter of the piezometer should be about 4" to 6".
- The depth of the piezometer should be same as is case of the pumping well from which ground water is being abstracted. If, more than one piezometers are installed the second piezometer should monitor the shallow ground water regime. It will facilitate shallow as well as deeper ground water aquifer monitoring.
- No. of piezometers to be constructed & Type of water level monitoring mechanism shall be as per below table:

	Control of Control of the description of the descri	No of piggometers required	Monitiring Mechanism			
S.No	Quantum of Ground water withdrawal (cum/day)	No.of piezometers required	Manual	DWLR with Telemetry		
1	< 10	0	Ó	Ò		
2	11 - 50	1	1	0		
3	50- 500	1	0	1		
4	> 500	2	0	2		

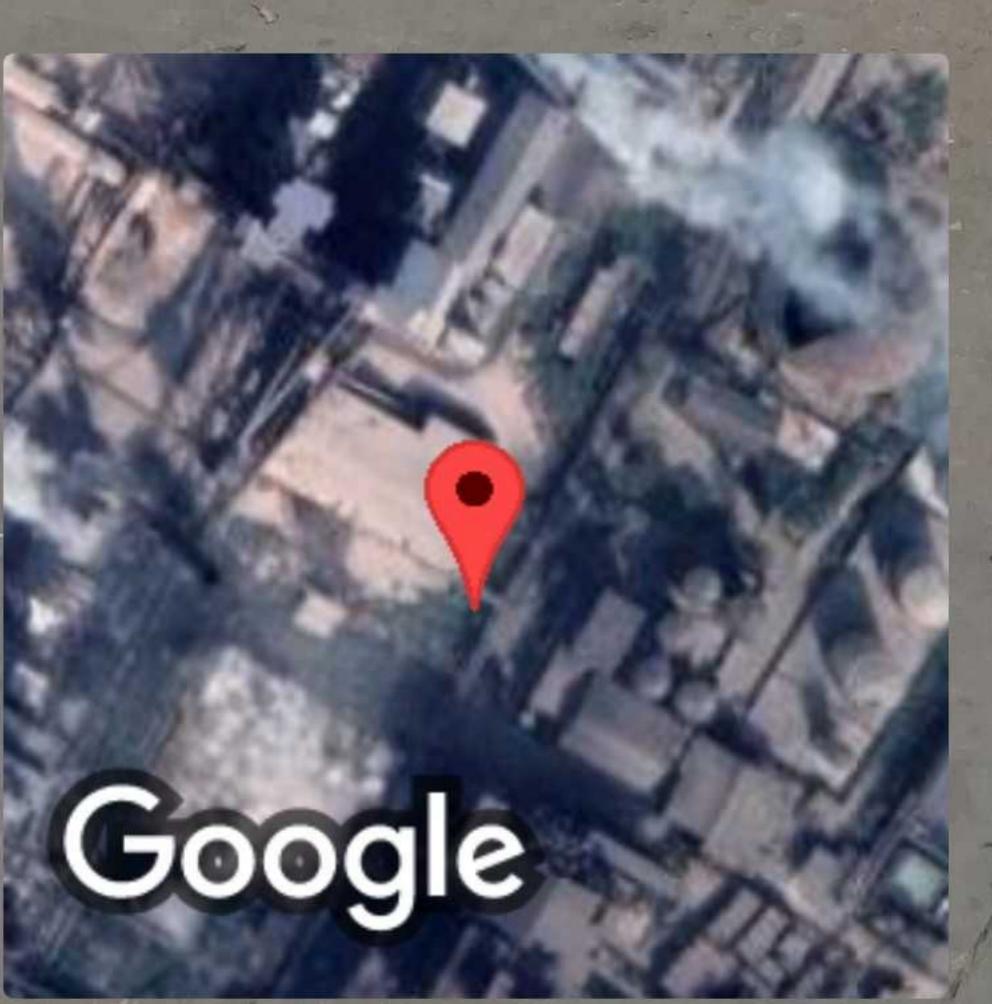
- The measuring frequency should be monthly and accuracy of measurement should be up to cm. the reported measurement should be given in meter upto two decimal.
- For measurement of water level sounder or automatic water level recorder (AWLR)/ Digital Automatic water level recorder (DWLR) with telemetry system should be used for accuracy.
- The measurement of water level in piezometer should be taken, only after the pumping from the surrounding tube wells has been stopped for about four to six hours.
- All the details regarding coordinates, reduced level (with respect to mean level), depth, zone taped and assembly lowered should be provided for bringing the piezometer into the Hydrograph Monitoring System for Ground Water Department, Uttar Pradesh, and for its validation.
- The ground water quality has to be monitored twice in a year during pre-monsoon (May/June) and post-monsoon (October/November) periods. Quality may be got analyzed from NABL approved lab. Besides, one sample (1 lt capacity bottle) to the concerned Director, Ground Water Department, Uttar Pradesh, for chemical analysis.
- A Permanent display board should be installed at piezometer/Tube wells site for providing the location, piezometer/ tube well
  number, depth and zone tapped of piezometer/tube well for standard referencing and identification.
- Any other site specific requirement regarding safety and access for measurement may be taken care of.
- 8. Any other condition(s) that may be imposed by the District Ground Water Management Council.

Date :22/06/2021

Place:Sambhal

This certificate is electronically generated and does not require digital signature





Asmoli, Uttar Pradesh, India PG4W+5G7, Asmoli, Uttar Pradesh 244304, India Lat 28.705816° Long 78.5458°

26/12/23 02:30 PM GMT +05:30













