

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL, NEW DELHI

ORIGINAL APPLICATION NO. 401/2022

IN THE MATTER OF:

Anand Swaroop Rastogi

Appellant

Versus

Uttarakhand Pollution Control Board

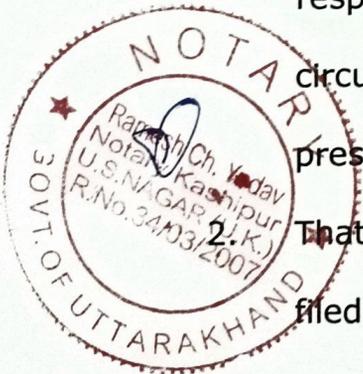
Respondent

COUNTER AFFIDAVIT ON BEHALF OF THE RESPONDENT

I, Naresh Goswami, aged about 43 years, working as Regional Officer (In charge), Kasipur, Uttarakhand Pollution Control Board, Chamunda Complex, Ram Nagar Road, Udham Singh Nagar, Uttarakhand, do hereby solemnly affirm and declare as under:

1. That I am working as Regional Officer (In charge), for the respondent and am well conversant with the facts and circumstances of the case and competent to swear the present counter affidavit on behalf of the Respondent.

2. That I have read the contents of the Original Application filed by the appellant and have understood the same. Save



2.

and except admitted here by me, I deny each and every averment made in this Original Application.

**Facts of the case:**

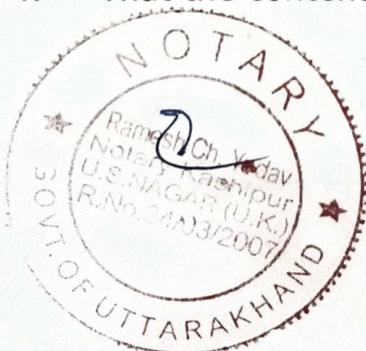
That the Unit M/s Mentha & Allied Products Ltd. Is located at Plot No.01 to 06, Shree Balaji Industrial Area, MahuaKhedaganj, Kashipur.

Unit is engaged in manufacturing of Pine Oil, Orange Oil using Alpha Pine & Orange Oil by the process of Purification & Distillation. Unit has having last CCA up to 31.03.2022.

Application for renewal of CCA has been applied.

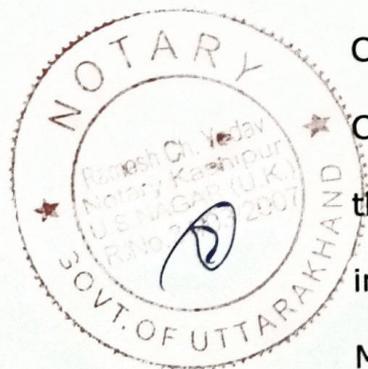
**PARAWISE REPLY**

1. That the contents of the para 1 need to reply.
2. That the contents of the para 2 need to reply.
3. That the contents of the para 3 need to reply.
4. That the contents of the para 4 need to reply.



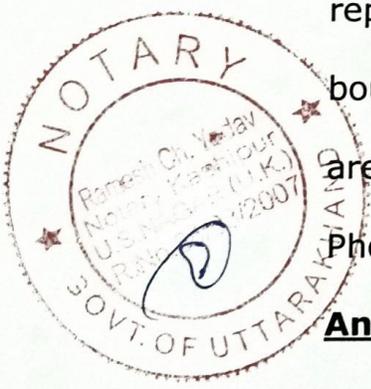
5(a). That the contents of the para 5(a) are Matter of Record. It is submitted that as per recent inspection dated 04.07.2022 it is reported that Batch wise Effluent is generated, in the Unit, from the (i) Floor & Equipment Wash & (ii) Product purification process which is a batch type i.e., non-continuous process. Once the washing effluent generated it is settled & filtered in Settling & Filtration plant to recover, Intermediate Products. Discarded effluent after Settling /Filtration discharged into in house Effluent Treatment Plant (ETP) through, Closed Conduits/Drain.

Unit has provided an Effluent Treatment Plant comprising Oil & Grease separation Tank, Collection cum Equalization Tank. Chemical Mixing cum Flash Mixture Tank & Primary Clarifier/Settling Tank, Aeration Secondary Clarification/Settling Tank, & ACF & MGF. Treated water of the ETP is stored in Treated Water Collection Tank & reused in Cooling Towers Make up Water, Water Flow Meter & PH Meter at ETP treated Water line & Energy Meter is installed in the ETP. At the time of inspection, it is reported that the ETP was in operation.



A sample of treated water of ETP was collected and analyzed at Board's laboratory wherein consented parameters pH, BOD, COD and TSS were found within limit (pH 7.0, TSS 34 mg/1, BOD 28 mg/1, COD 180 mg/1). Third Party analysis report dated 02.07.2022 of treated waste water is also submitted by unit. As per both reports, Outlet parameters of ETP are within prescribed limits. Copy of treated waste water analysis report as carried out in Board's laboratory as well as third party report is annexed at **Annexure-I.**

5(b) That the contents of the para 5 (b) are Matter of Record. It is submitted that as per inspection dated 04.07.2022 it is reported that the plantation is available around the boundary wall of the Unit at three sides & within the open area available at left at the, Unit.



Photograph was taken during the inspection are enclosed at **Annexure-II.**

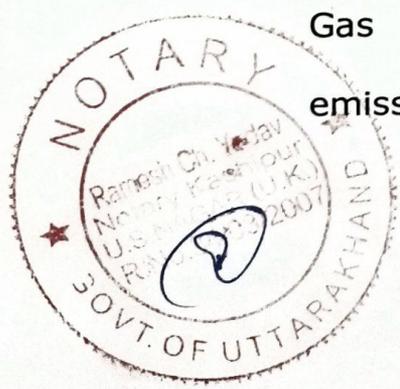
5 (c) That the contents of the para 5 (b) are Matter of Record. It is submitted that as per inspection dated 04.07.2022 it is

reported that the Roof Top rain water harvesting system is established.

Photographs of the same are enclosed at **Annexure-III.**

5(d) That the contents of the para 5 (b) are Matter of Record. It is submitted that as per inspection dated 04.07.2022, separate electricity meters are installed at ETP and at ID fan of Stacks, attached with Boiler & Thermic Fluid Heater. Photographs of the electricity meters are enclosed at **Annexure-IV.**

5(e) That the contents of the para 5 (e) are Matter of Record. It is submitted that as per inspection dated 04.07.2022 it is reported that the Dust Collector & 30 meters height Stack is provided with Thermic Fluid Heaters (15 Lakh Kcal xOI Nos. & 10 Lakh Kcal xOI Nos.) & Boiler (800 Kg/HrxOINos). All are having Wood Fired Furnaces. Stack Monitoring of Flue Gas Stacks, was carried out. Analysis report for Stack emission dated 28.07.2022 as carried out by NABL

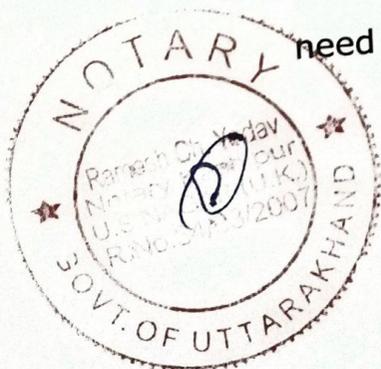


accredited laboratory reveals that the particulate matters are within norms. Results are as follows: -

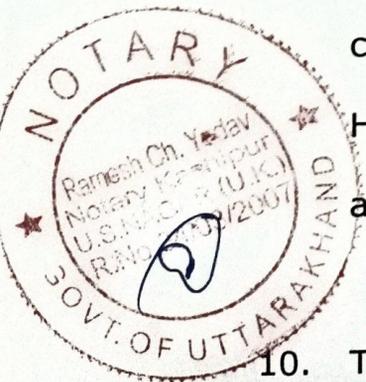
Stack attached with	Concentration of Particulate Matter as reported by NABL Lab
Boiler (800 Kg/hr)	721 mg/NM <sup>3</sup>
Thermic fluid Heater (15 Lakh KCAL)	85.20 mg/NM <sup>3</sup>
Thermic fluid Heater (10 Lakh KCAL)	72.60 mg/NM <sup>3</sup>

Copies of the Lab reports are enclosed at **Annexure-V**.

6. That the contents of the para 6 are Matter of Record hence need no reply.
7. That the contents of the para 7 are Matter of Record hence need no reply.



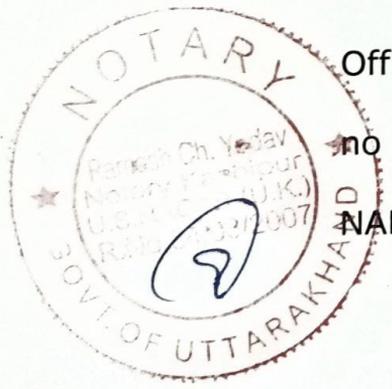
8. In reply to the contents of para 8 it is submitted that fresh inspection of the unit was carried out by Board Officials on dated 04.07.2022 and the observations reported in the said inspection is narrated at para 5(a) to 5(e) above.
9. In reply to contents of para 9 it is submitted that apart from the sample analysis of treated waste water and stack emission, 01 Ground water sample and 02 soil samples were also drawn and analyzed at NABL accredited laboratory on dated 01.08.2022. Results of ground water (general parameters and toxic substance) are reported within the limits (ground water sample results are compared with IS Standards and soil sample results are compared with WHO guidelines: Target value of soil / Handbook of Agriculture, ICAR). Copy of the test report is annexed at **Annexure-VI**.
10. That the contents of the para 10 are Matter of Record. It is submitted that as per inspection dated 04.07.2022 it is



Reported that the Roof Top rain water harvesting system is established. Photographs of the same are enclosed at **Annexure-III.**

11 & 12. That the contents of the para 11 & 12 are Matter of Record. It is submitted that as per inspection dated 04.07.2022, plantation is available around the boundary wall of the Unit at three sides & within the open area available at left at the, Unit. Photograph was taken during the inspection are enclosed at **Annexure-II.**

13 & 14. That the contents of para 13 and 14 are wrong and hence denied. It is submitted that there is no point of such allegation. Compliance has already reported by the Regional Office, against the points raised by the petitioner. There is no ground water contamination as revealed in third partly NABL report.



15. That the contents of the para 15 need reply on behalf of the answering respondent,

In view of above facts and circumstances of the case this OA of the Appellant above named deserves to be dismissed on merits. It is accordingly prayed that the O.A. of the appellant of they may kindly be dismissed with costs.

That no new grounds, which are not taken in the courts below, have been taken in the present Counter Affidavit.



*[Signature]*  
DEPONENT

VERIFICATION:

Verified at Udam Singh Nagar on this the 6<sup>th</sup> day of October, 2022 that the contents of the above affidavit are true to my knowledge and nothing material has been concealed therefrom.

Verified & Authenticated by  
Shri. *Narush Kasam*  
This *6* Day *10* Of *22*  
id *Alcorn*  
Serial No *1055* Time *1.40-8 PM*

*[Signature]*  
DEPONENT

*[Signature]*  
Ramesh Ch. Yadav  
Advocate  
Notary Public *kasam pur (U.K.)*  
*6/10/22*

(Annex-I)<sup>10.</sup>



Regional Office  
Uttarakhand Pollution Control Board  
Chamunda Complex Ramnagar road  
Kashipur-Uttarakhand

**Analysis Report – Industrial Effluent**

Report No. : ROK/ Lab-131/Eff-25/2022-2023  
Name of Industry : M/s Mentha & Allied Products Ltd.  
Plotno.1-6, shree balaji industrial area Mahuakheraganj,  
Sample Collected by : Mr. Sunil Arya (AEE) & Mr. Akash burman (M.A)  
Date of collection of sample : 04/07/2022  
Date of completion of analysis: 08/07/2022  
Sampling Point : ETP Outlet

**Test Results**

Parameters	Value	Test Method
pH	7.0	Electrometric
Total Suspended Solids (mg/L)	34	Filtration Method
BOD (mg/L)	28	BOD 3 Days
COD (mg/L)	180	Dichromate Reflux Method

  
Junior Research Fellow

  
Asst. Environment Engineer

  
Regional Officer (I/C)



## TEST REPORT

PARTY CODE : M/UK/12258  
ISSUED TO : MENTHA & ALLIED PRODUCTS PVT. LTD.

REPORT NO. : US0704003122  
REF. NO. : NS

Plot No.1-6, Shree Balaji Industrial Estate, Mahuakhera  
Ganj, Distt.-Udham Singh Nagar, Kashipur, Uttarakhand

REF. DATE : NS  
DT.RECD : 04/07/2022



SAMPLE NAME : EFFLUENT WATER (ETP-OUTLET)

### RESULTS OF ANALYSIS

Reference : EP Act Standard

DESCRIPTION : One Effluent water sample from Outlet of ETP was drawn by us on 02/07/2022

SAMPLING DATE : 02/07/2022

SAMPLE QTY. : 2 LTR.

S.No.	Parameters	Units	Results	Limit (Max.)	Protocols
1.	pH	NA	7.28	5.5 to 9.0	IS:3025 (P-11)
2.	Total Suspended Solids	mg/L	27	100	IS:3025 (P-17)
3.	Chemical Oxygen Demand	mg/L	109	250	IS:3025 (P-58)
4.	Biochemical Oxygen Demand (for 3 days at 27 °C)	mg/L	26	30	IS:3025 (P-44)
5.	Oil & Grease	mg/L	3.6	10	IS:3025 (P-39)

For Mentha & Allied Products Pvt. Ltd.

Date of performance : 04/07/2022 to 08/07/2022

NA = Not Applicable, BDL = Below Detection Limit

*Arvind Gupta*  
Arvind Gupta  
General Manager

SAMPLE DRAWN BY US

*Arvind Gupta*  
Arvind Gupta  
Tech. Manager (Env.)

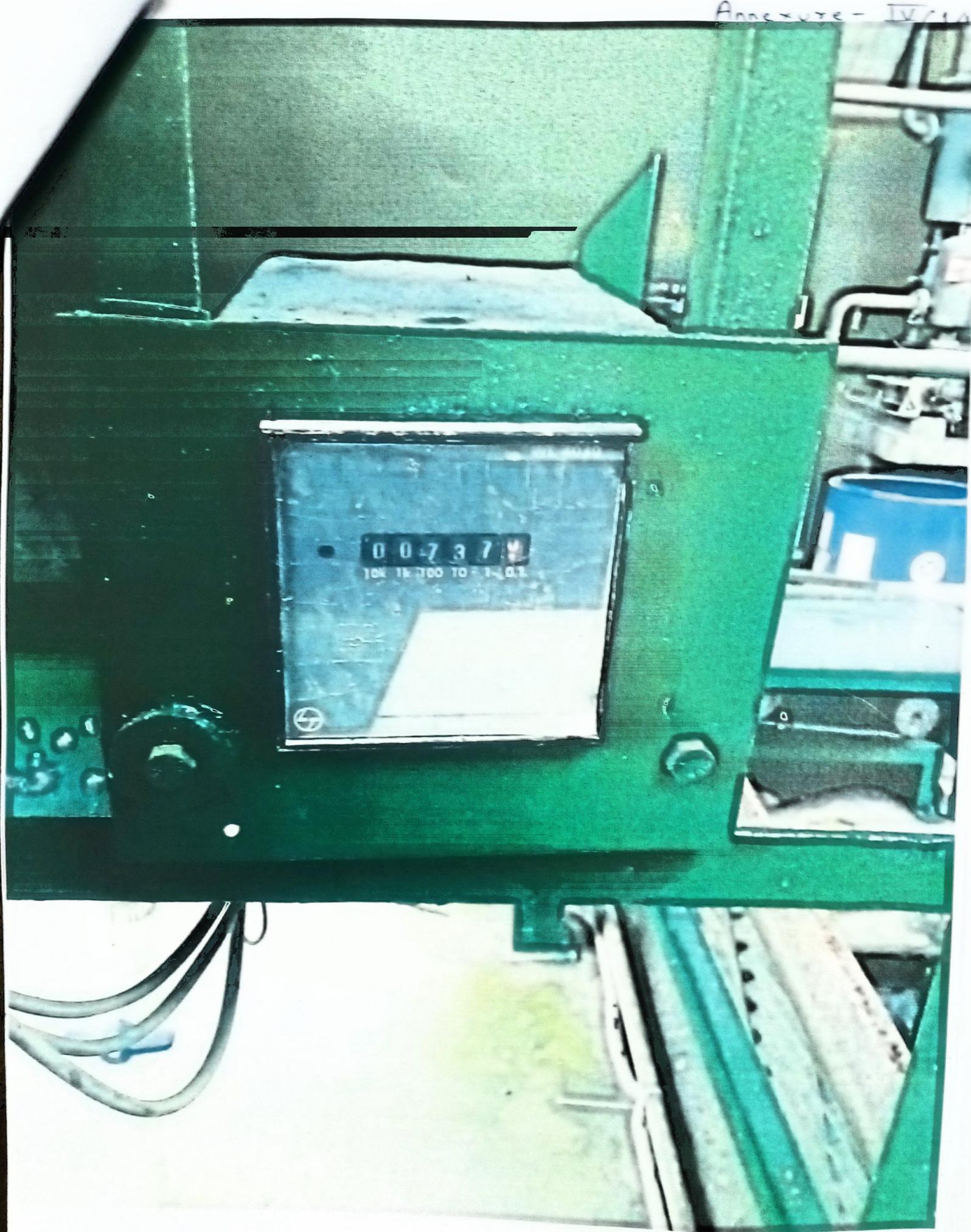
Date of completion : 08/07/2022

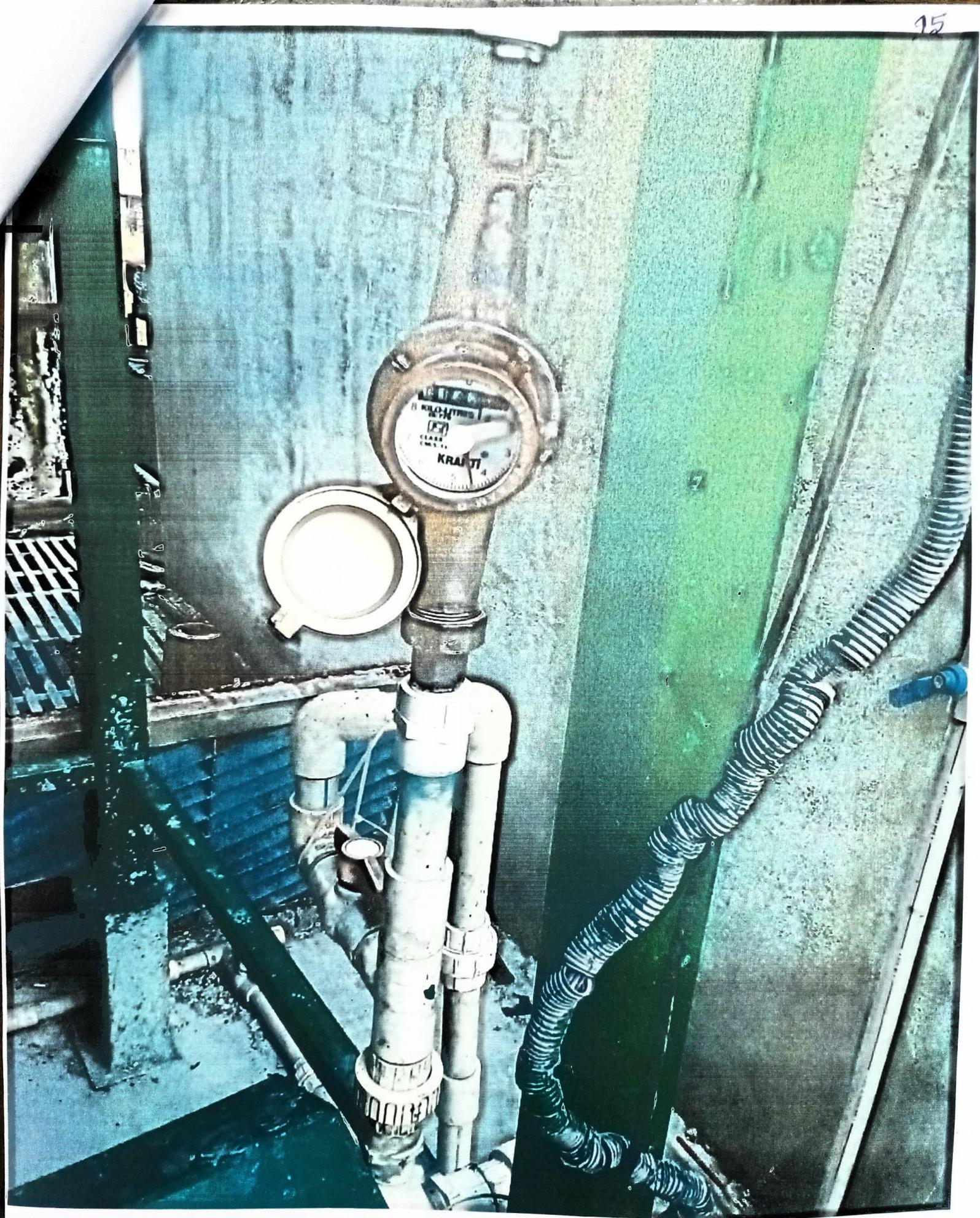
--- End of Test Report ---

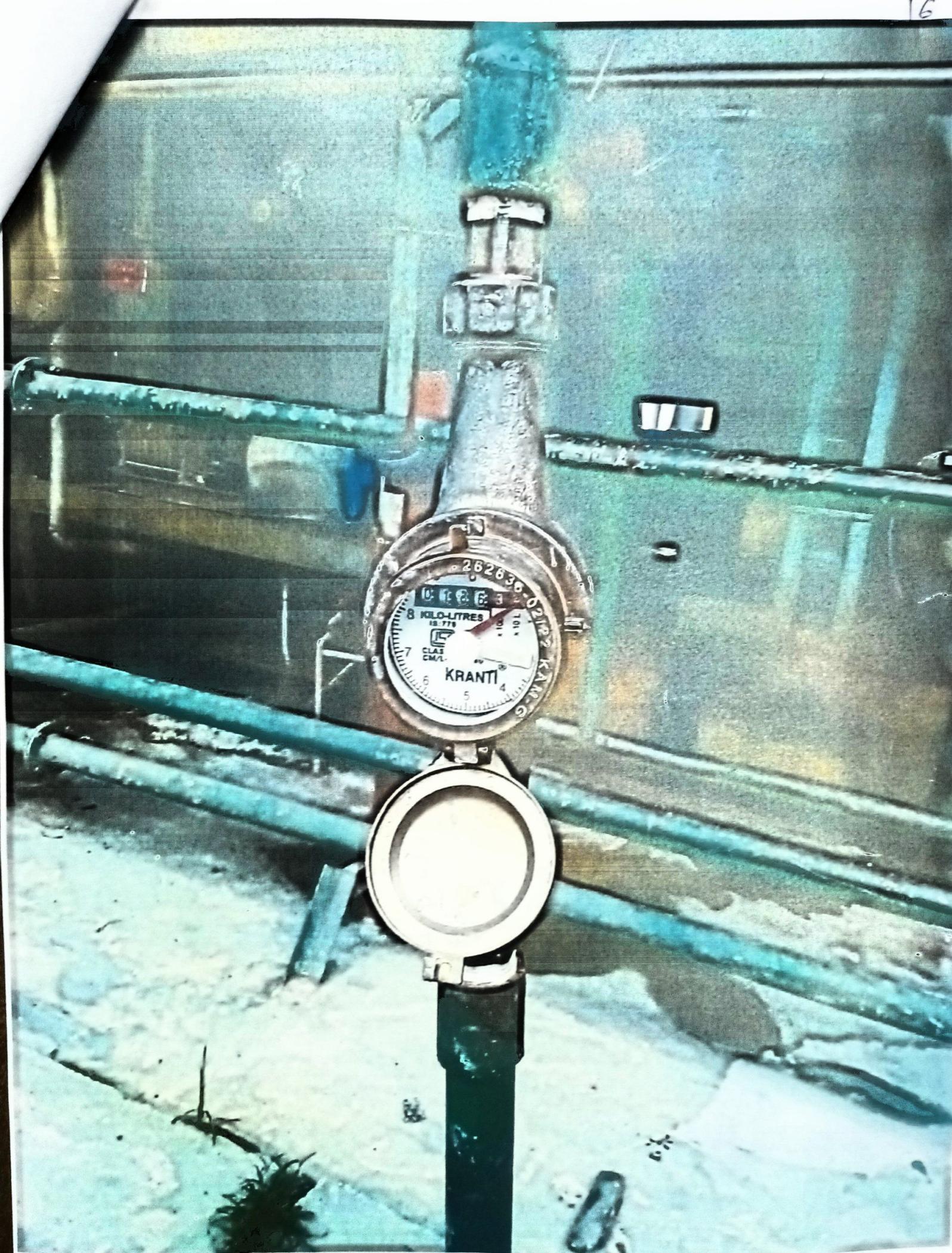
AUTHORISED SIGNATORY







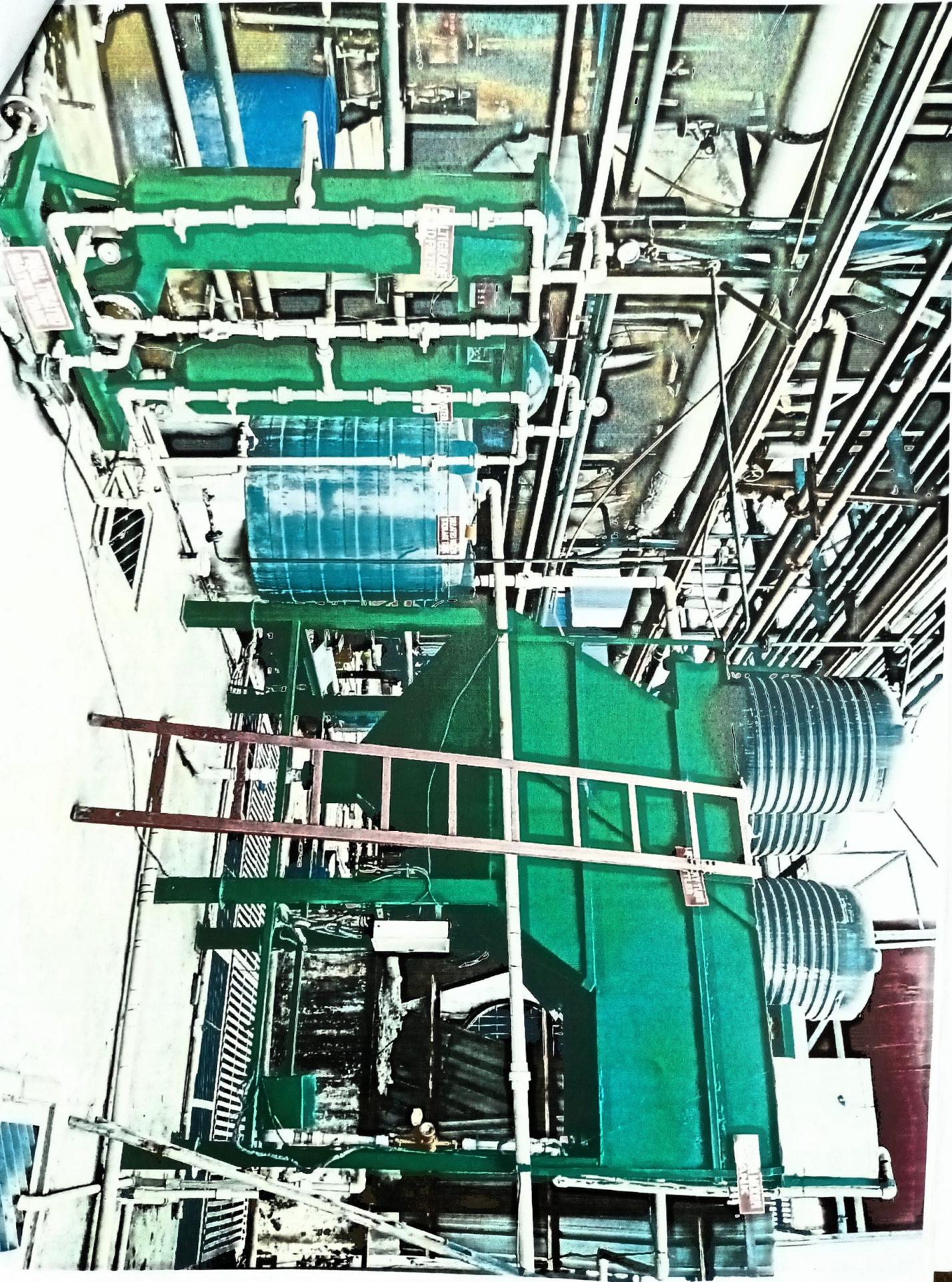




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(A Government of India Approved Testing Laboratory)

(An ISO : 9001 : 2015, ISO 45001 : 2018 (OH&S) Certified & NABL Accredited Laboratory)

MoEF & CC (Ministry of Environment, Forest & Climate Change), UPPCB Recognized Laboratory

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(19)

## TEST CERTIFICATE

V

Test Report of	Report Code	Date of Issue
Stack Emission	ST-010822-025	05/08/2022

Issued To: M/s UKPCB Regional Office – Kashipur  
 Monitoring Site: M/s Mentha Allied Products Pvt. Ltd.  
 Address: Plot No. -126, Shree Balaji Industrial Estate, Mahuakheraganj,  
 Kashipur, Uttarakhand - 244713

### SAMPLING & ANALYSIS DATA

Sample Drawn on	:	28/07/2022
Sample Drawn By	:	NTL
Sample Description	:	Stack Emission
Sampling Time	:	30 minutes
Sampling Plan & Procedure	:	SOP/SE/09
Analysis Duration	:	01/08/2022 to 05/08/2022
Stack Temperature (°C)	:	138
Source of Emission	:	Stack Attached to Steam Boiler
Capacity	:	800 Kg
Fuel Used	:	Wood
Quantity	:	20 quintal/24 hrs
Operating Load	:	Normal
Type of Stack	:	Metal circular
Diameter of Stack (inch)	:	24.0
Height of Stack from ground level (feet)	:	100.0
Height of Stack from Sampling Point (feet)	:	35.0
Average Velocity of Flue Emission (m/s)	:	7.5
Pollution Control Measure, If Any	:	Dust Collector

### TEST RESULT

S.N.	Parameter	Test Method	Results	Units	Emission limits (Max)
1.	Particulate Matter (PM)	IS:11255(Part-1)	721.0	mg /Nm <sup>3</sup>	1200
2.	Sulphur dioxide (SO <sub>2</sub> )	IS:11255(Part-2)	254.0	mg /Nm <sup>3</sup>	600
3.	Nitrogen dioxide (NO <sub>2</sub> )	IS:11255(Part-7)	116.0	mg /Nm <sup>3</sup>	300
4.	Carbon monoxide (as CO)	USEPA Method No.10	0.038	%	1.0

### Notes:

- The results given above are related to the tested sample, as received & mentioned parameters. The customer asked for the above tests only.
- Responsibility of the Laboratory is limited to the invoiced amount only.
- This test report will not be generated again, either wholly or in part, without prior written permission of the laboratory.
- The test samples will be disposed off after two weeks from the date of issue of test report, unless until specified by the customer.

Ahjali vaid  
 CHECKED BY

  
 AUTHORIZED SIGNATORY

Laboratory : GT-20, Sector-117, NOIDA, Gautam Budh Nagar - 201301  
 Branch Office :  
 HARIDWAR | RUDRAPUR | CHANDIGARH | DEHRADUN | PUNE  
 E.: noida.laboratory@gmail.com, info@noidalabs.com W.: www.noidalabs.com



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## TEST CERTIFICATE

Test Report of	Report Code	Date of Issue
Stack Emission	ST-010822-026	05/08/2022

Issued To: M/s UKPCB Regional Office – Kashipur

Monitoring Site: M/s Mentha Allied Products Pvt. Ltd.

Address: Plot No. -126, Shree Balaji Industrial Estate, Mahuakheraganj, Kashipur, Uttarakhand - 244713

### SAMPLING & ANALYSIS DATA

Sample Drawn on	:	28/07/2022
Sample Drawn By	:	NTL
Sample Description	:	Stack Emission
Sampling Time	:	30 minutes
Sampling Plan & Procedure	:	SOP/SE/09
Analysis Duration	:	01/08/2022 to 05/08/2022
Stack Temperature (°C)	:	164
Source of Emission	:	Stack Attached to Thermic Fluid Heater
Capacity	:	15 Lakh Kcalorie
Fuel Used	:	Wood
Quantity	:	20 quintal/24 hrs
Operating Load	:	Normal
Type of Stack	:	Metal circular
Diameter of Stack (inch)	:	24.0
Height of Stack from ground level (feet)	:	100.0
Height of Stack from Sampling Point (feet)	:	35.0
Average Velocity of Flue Emission (m/s)	:	10.5
Pollution Control Measure, If Any	:	Dust Collector

### TEST RESULT

S.N.	Parameter	Test Method	Results	Units	Emission limits (Max)
1.	Particulate Matter (PM)	IS:11255(Part-1)	85.20	mg /Nm <sup>3</sup>	150
2.	Sulphur dioxide (SO <sub>2</sub> )	IS:11255(Part-2)	280.0	mg /Nm <sup>3</sup>	Not Specified
3.	Nitrogen dioxide (NO <sub>2</sub> )	IS:11255(Part-7)	151.0	mg /Nm <sup>3</sup>	Not Specified
4.	Carbon monoxide (as CO)	USEPA Method No.10	0.062	mg /Nm <sup>3</sup>	Not Specified

#### Notes:

1. The results given above are related to the tested sample, as received & mentioned parameters. The customer asked for the above tests only.
2. Responsibility of the Laboratory is limited to the invoiced amount only.
3. This test report will not be generated again, either wholly or in part, without prior written permission of the laboratory.
4. The test samples will be disposed off after two weeks from the date of issue of test report, unless until specified by the customer.

Ahjali vaid  
CHECKED BY

NTL  
NOIDA TESTING LABORATORIES  
AUTHORIZED SIGNATORY

Laboratory : GT-20, Sector-117, NOIDA, Gautam Budh Nagar - 201301

Branch Office :

HARIDWAR | RUDRAPUR | CHANDIGARH | DEHRADUN | PUNE

E.: noida.laboratory@gmail.com, info@noidalabs.com W.: www.noidalabs.com



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## TEST CERTIFICATE

Test Report of	Report Code	Date of Issue
Stack Emission	ST-010822-027	05/08/2022

Issued To: M/s UKPCB Regional Office – Kashipur

Monitoring Site: M/s Mentha Allied Products Pvt. Ltd.

Address: Plot No. -126, Shree Balaji Industrial Estate, Mahuakheraganj, Kashipur, Uttarakhand - 244713

### SAMPLING & ANALYSIS DATA

Sample Drawn on	:	28/07/2022
Sample Drawn By	:	NTL
Sample Description	:	Stack Emission
Sampling Time	:	30 minutes
Sampling Plan & Procedure	:	SOP/SE/09
Analysis Duration	:	01/08/2022 to 05/08/2022
Stack Temperature (°C)	:	157
Source of Emission	:	Stack Attached to Thermic Fluid Heater
Capacity	:	10 Lakh Kcalorie
Fuel Used	:	Wood
Quantity	:	15 quintal/24 hrs
Operating Load	:	Normal
Type of Stack	:	Metal circular
Diameter of Stack (inch)	:	24.0
Height of Stack from ground level (feet)	:	100.0
Height of Stack from Sampling Point (feet)	:	35.0
Average Velocity of Flue Emission (m/s)	:	10.2
Pollution Control Measure, If Any	:	Dust Collector

### TEST RESULT

S.N.	Parameter	Test Method	Results	Units	Emission limits (Max)
1.	Particulate Matter (PM)	IS:11255(Part-1)	72.60	mg /Nm <sup>3</sup>	150
2.	Sulphur dioxide (SO <sub>2</sub> )	IS:11255(Part-2)	260.0	mg /Nm <sup>3</sup>	Not Specified
3.	Nitrogen dioxide (NO <sub>2</sub> )	IS:11255(Part-7)	138.0	mg /Nm <sup>3</sup>	Not Specified
4.	Carbon monoxide (as CO)	USEPA Method No.10	0.054	mg /Nm <sup>3</sup>	Not Specified

### Notes:

1. The results given above are related to the tested sample, as received & mentioned parameters. The customer asked for the above tests only.
2. Responsibility of the Laboratory is limited to the invoiced amount only.
3. This test report will not be generated again, either wholly or in part, without prior written permission of the Laboratory.
4. The test samples will be disposed off after two weeks from the date of issue of test report, unless until specified by the customer.

Amyali Vaid  
CHECKED BY

AUTHORIZED SIGNATORY

Laboratory : GT-20, Sector-117, NOIDA, Gautam Budh Nagar - 201301

Branch Office :

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Test Report of	<b>TEST REPORTIFICATE</b>	Date of Issue
Water Sample	W-010822-028	06/08/2022

Issued To: M/s UKPCB Regional Office –Kashipur  
 Monitoring Site: M/s Mentha Allied Products Pvt. Ltd.  
 Address: Plot No. -126, Shree Balaji Industrial Estate, Mahuakheraganj, Kashipur, Uttarakhand - 244713

VI

### SAMPLING & ANALYSIS DATA

Sample Drawn By : NTL  
 Sample Received On : 01/08/2022  
 Sample Quantity : 2.0 lit  
 Sample packing Details : PVC Cane  
 Analysis Duration : 01/08/2022 to 06/08/2022  
 Sample Description : Ground Water  
 Required Test Standard : IS 10500: 2012

### MICROBIOLOGICAL REQUIREMENT RESULT

S.No.	Parameter	Test Method	Results	Requirements as per IS-10500:2012
1.	<i>Escherichia coli</i>	IS-15185	Absent	Absent/100ml
2.	<i>Coliform Bacteria</i>	IS-15185	Absent	Absent/100ml

### ORGANOLEPTIC & PHYSICAL PARAMETERS

S.NO.	Parameter	Test Method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Colour	IS-3025(P-04)	<1.00	Hazen Unit	5	15
2.	Odour	IS-3025(P-05)	Agreeable	-	Agreeable	Agreeable
3.	Taste	IS-3025(P-07 & 08)	Agreeable	-	Agreeable	-
4.	Turbidity	IS-3025(P-10)	<1.00	NTU	1	5
5.	pH value	IS-3025(P-11)	7.43	-	6.5 - 8.5	-
6.	Total dissolve solid (TDS)	IS-3025(P-16)	403.0	mg/l	500	2000

### GENERAL PARAMETERS CONCERNING SUBSTANCES UNDESIRABLE IN EXCESSIVE AMOUNT

S.No.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Aluminium (as Al)	IS: 3025 (P- 55)	<0.01	mg/l	0.03	0.2
2.	Total Ammonia	IS: 3025 (P- 34)	<0.10	mg/l	0.5	No Relaxation
3.	Anionic Detergents (as MBAS)	Annex K of IS- 13428	<0.10	mg/l	0.2	1.0
4.	Barium (as Ba)	IS: 15302	<0.10	mg/l	0.7	No Relaxation
5.	Boron (as B)	IS: 3025 (P- 57)	<0.10	mg/l	0.5	2.4
6.	Calcium (as Ca)	IS: 3025 (P- 40)	57.10	mg/l	75	200
7.	Chloramines (as Cl <sub>2</sub> )	IS: 3025 (P- 26)	<1.00	mg/l	4.0	No Relaxation

Laboratory : GT-20, Sector-117, NOIDA, Gautam Budh Nagar - 201301

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## TEST CERTIFICATE

	Chloride (as Cl)	IS: 3025 (P- 32)	18.50	mg/l	250	1000
	Copper (as Cu)	IS: 3025 (P-42)	<0.05	mg/l	0.05	1.5
	Fluoride (as F)	IS: 3025 (P-60)	0.34	mg/l	1.0	1.5
1.	Free Residual Chlorine	IS: 3025 (P-26)	BDL	mg/l	0.2	1.0
2.	Iron (as Fe)	IS: 3025(P-53)	0.132	mg/l	1.0	No Relaxation
3.	Magnesium (as Mg)	IS: 3025 (P-46)	8.04	mg/l	30	100
4.	Manganese (as Mn)	Clause 35 of IS 3025	BDL	mg/l	0.1	0.3
5.	Mineral Oil	Clause 6 of IS: 3025	<0.50	mg/l	0.5	No Relaxation
6.	Nitrate (as NO <sub>3</sub> )	IS: 3025 (P- 34)	4.25	mg/l	45	No Relaxation
7.	Selenium (as Se)	IS: 3025 (P- 56)	BDL	mg/l	0.01	No Relaxation
8.	Silver (as Ag)	Annex J IS: 13428	BDL	mg/l	0.1	No Relaxation
9.	Sulphate (as SO <sub>4</sub> )	IS: 3025 (P- 24)	36.02	mg/l	200	400
10.	Sulphide (as H <sub>2</sub> S)	IS-3025 (P-29)	BDL	mg/l	0.05	No Relaxation
1.	Alkalinity (as Ca CO <sub>3</sub> )	IS: 3025 (P- 23)	185.0	mg/l	200	600
2.	Total Hardness (as CaCO <sub>3</sub> )	IS: 3025 (P- 23)	176.0	mg/l	200	600
3.	Zinc (as Zn)	IS: 3025 (P- 49)	0.142	mg/l	5.0	15
4.	Phenolic Compound as (C <sub>6</sub> H <sub>5</sub> OH)	IS: 3025 (P- 43)	BDL	mg/l	0.001	0.002

### Parameters Concerning Toxic Substances:

No.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
	Cadmium (as Cd)	IS-3025(P-41)	<0.001	mg/l	0.003	No Relaxation
	Cyanide (as CN)	IS-3025(P-27)	<0.01	mg/l	0.05	No Relaxation
	Lead (as Pb)	IS-3025(P-47)	<0.01	mg/l	0.01	No Relaxation
	Mercury (as Hg)	IS-3025(P-48)	<0.001	mg/l	0.001	No Relaxation
	Molybdenum (Mo)	IS-3025(P-2)	<0.05	mg/l	0.07	No Relaxation
	Nickel (as Ni)	IS-3025(P-54)	<0.01	mg/l	0.02	No Relaxation
	Poly nuclear Aromatic Hydro Carbons	APHA 6440	<0.0001	mg/l	0.0001	No Relaxation
	Poly chlorinated biphenyl	APHA 6630	<0.0001	mg/l	0.0005	No Relaxation
	Total Arsenic (as As)	IS-3025(P-37)	<0.01	mg/l	0.01	No Relaxation
	Total Chromium (as Cr)	IS-3025(P-52)	<0.05	mg/l	0.05	No Relaxation

BDL: Below Detection limit.

Notes:

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Checked by  
Anjali Verma

Authorized Signatory

Laboratory : GT-20, Sector-117, NOIDA, Gautam Budh Nagar - 201301

Branch Office :

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Test Report of	<b>TEST REPORTIFICATE</b>	Date of Issue
Water Sample	W-010822-030	06/08/2022

Issued To: M/s UKPCB Regional Office -Kashipur

### SAMPLING & ANALYSIS DATA

Sample Drawn By : NTL  
 Sample Received On : 01/08/2022  
 Sample Quantity : 2.0 lit  
 Sample packing Details : PVC Cane  
 Analysis Duration : 01/08/2022 to 06/08/2022  
 Coordinates : 78.9475933, 29.1343  
 Location : Near Madina Masjid, Kashipur  
 Sample Description : Handpump Water  
 Required Test Standard : IS 10500: 2012

### MICROBIOLOGICAL REQUIREMENT RESULT

S.No.	Parameter	Test Method	Results	Requirements as per IS-10500:2012
1.	<i>Escherichia coli</i>	IS-15185	Absent	Absent/100ml
2.	<i>Coliform Bacteria</i>	IS-15185	Absent	Absent/100ml

### ORGANOLEPTIC & PHYSICAL PARAMETERS

S.NO.	Parameter	Test Method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Colour	IS-3025(P-04)	<1.00	Hazen Unit	5	15
2.	Odour	IS-3025(P-05)	Agreeable	-	Agreeable	Agreeable
3.	Taste	IS-3025(P-07 & 08)	Agreeable	-	Agreeable	-
4.	Turbidity	IS-3025(P-10)	<1.00	NTU	1	5
5.	pH value	IS-3025(P-11)	7.84	-	6.5 - 8.5	-
6.	Total dissolve solid (TDS)	IS-3025(P-16)	358.0	mg/l	500	2000

### GENERAL PARAMETERS CONCERNING SUBSTANCES UNDESIRABLE IN EXCESSIVE AMOUNT

S.No.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Aluminium (as Al)	IS: 3025 (P- 55)	<0.01	mg/l	0.03	0.2
2.	Total Ammonia	IS: 3025 (P- 34)	<0.10	mg/l	0.5	No Relaxation
3.	Anionic Detergents (as MBAS)	Annex K of IS-13428	<0.10	mg/l	0.2	1.0
4.	Barium (as Ba)	IS: 15302	<0.10	mg/l	0.7	No Relaxation
5.	Boron (as B)	IS: 3025 (P- 57)	<0.10	mg/l	0.5	2.4
6.	Calcium (as Ca)	IS: 3025 (P- 40)	59.40	mg/l	75	200
7.	Chloramines (as Cl <sub>2</sub> )	IS: 3025 (P- 26)	<1.00	mg/l	4.0	No Relaxation

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3.	Chloride (as Cl)	IS: 3025 (P- 32)	16.20	mg/l	250	1000
	Copper (as Cu)	IS: 3025 (P-42)	<0.05	mg/l	0.05	1.5
3.	Fluoride (as F)	IS: 3025 (P-60)	0.28	mg/l	1.0	1.5
1.	Free Residual Chlorine	IS: 3025 (P-26)	BDL	mg/l	0.2	1.0
2.	Iron (as Fe)	IS: 3025(P-53)	0.126	mg/l	1.0	No Relaxation
3.	Magnesium (as Mg)	IS: 3025 (P-46)	4.00	mg/l	30	100
4.	Manganese (as Mn)	Clause 35 of IS 3025	BDL	mg/l	0.1	0.3
5.	Mineral Oil	Clause 6 of IS: 3025	<0.50	mg/l	0.5	No Relaxation
6.	Nitrate (as NO <sub>3</sub> )	IS: 3025 (P- 34)	3.02	mg/l	45	No Relaxation
7.	Selenium (as Se)	IS: 3025 (P- 56)	BDL	mg/l	0.01	No Relaxation
8.	Silver (as Ag)	Annex J IS: 13428	BDL	mg/l	0.1	No Relaxation
9.	Sulphate (as SO <sub>4</sub> )	IS: 3025 (P- 24)	32.50	mg/l	200	400
10.	Sulphide (as H <sub>2</sub> S)	IS-3025 (P-29)	BDL	mg/l	0.05	No Relaxation
11.	Alkalinity (as Ca CO <sub>3</sub> )	IS: 3025 (P- 23)	182.0	mg/l	200	600
12.	Total Hardness (as CaCO <sub>3</sub> )	IS: 3025 (P- 23)	165.0	mg/l	200	600
13.	Zinc (as Zn)	IS: 3025 (P- 49)	0.136	mg/l	5.0	15
14.	Phenolic Compound as (C <sub>6</sub> H <sub>5</sub> OH)	IS: 3025 (P- 43)	BDL	mg/l	0.001	0.002

### Parameters Concerning Toxic Substances:

No.	Parameter	Test method	Result	Unit	Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source
1.	Cadmium (as Cd)	IS-3025(P-41)	<0.001	mg/l	0.003	No Relaxation
2.	Cyanide (as CN)	IS-3025(P-27)	<0.01	mg/l	0.05	No Relaxation
3.	Lead (as Pb)	IS-3025(P-47)	<0.01	mg/l	0.01	No Relaxation
4.	Mercury (as Hg)	IS-3025(P-48)	<0.001	mg/l	0.001	No Relaxation
5.	Molybdenum (Mo)	IS-3025(P-2)	<0.05	mg/l	0.07	No Relaxation
6.	Nickel (as Ni)	IS-3025(P-54)	<0.01	mg/l	0.02	No Relaxation
7.	Poly nuclear Aromatic Hydro Carbons	APHA 6440	<0.0001	mg/l	0.0001	No Relaxation
8.	Poly chlorinated biphenyl	APHA 6630	<0.0001	mg/l	0.0005	No Relaxation
9.	Total Arsenic (as As)	IS-3025(P-37)	<0.01	mg/l	0.01	No Relaxation
10.	Total Chromium (as Cr)	IS-3025(P-52)	<0.05	mg/l	0.05	No Relaxation

BDL: Below Detection limit.

### Notes:

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Anjali Vaid  
Checked by

Authorized Signatory

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## TEST CERTIFICATE

Test Report of	Report Code	Date of Issue
Soil Quality Analysis	SQ-010822-029	06/08/2022

ISSUED TO : M/S. UKPCB Regional Office- Kashipur.

Issued To: M/s Mentha Allied Products Pvt. Ltd.

Address: Plot No. -126, Shree Balaji Industrial Estate, Mahuakheraganj, Kashipur, Uttarakhand - 244713

### Sampling & Analysis Data

Sample Received On : 01/08/2022  
 Sample Description : Soil Sample  
 Sample Quantity : 2.0 Kg  
 Sample Drawn By : NTL  
 Analysis Duration : 01/08/2022 to 06/08/2022

Sl. No.	Parameters	Unit	Results	Test Method	
1.	pH	-	7.56	IS:2720(Part-26)	
2.	Electrical Conductivity at 25° C (1:5suspension)	µmhos/cm	412	IS:2720(Part-21)	
3.	Sodium (as Na)	(mg/kg)	110.0	STP/SOIL	
4.	Water holding capacity	(%) by mass	27.50	STP/SOIL	
5.	Potassium (as K)	(kg/ha)	196.0	STP/SOIL	
6.	Texture	Sand	(%) by mass	64.0	STP/SOIL
		Clay	(%) by mass	16.0	STP/SOIL
		Silt	(%) by mass	20.0	STP/SOIL
7.	Calcium (as Ca)	(mg/kg)	780.0	STP/SOIL	
8.	Magnesium (as Mg)	(mg/kg)	186.0	STP/SOIL	
9.	Sodium Absorption Ration (SAR)	-	2.54	STP/SOIL	
10.	Cation Exchange Capacity (CEC)	(meq/100gm)	1.01	STP/SOIL	
11.	Available Phosphorus (as P)	Kg/ha	66.2	STP/SOIL	
12.	Organic carbon	(%) by mass	0.25	STP/SOIL	
13.	Porosity	(% by mass)	46.0	STP/SOIL	
14.	Bulk Density	(g/cm <sup>3</sup> )	1.20	STP/SOIL	
15.	Nitrogen	Kg/ha	156.0	STP/SOIL	
16.	Silica content (as SiO <sub>2</sub> )	% by mass	74.0	STP/SOIL	
17.	Zinc (as Zn)	mg/kg	16.6	STP/SOIL	
18.	Lead (as Pb)	mg/kg	1.56	STP/SOIL	
19.	Nickel (as Ni)	mg/kg	6.25	STP/SOIL	
20.	Copper (as Cu)	mg/kg	9.85	STP/SOIL	
21.	Total Chromium (as Cr)	mg/kg	1.25	STP/SOIL	

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## TEST CERTIFICATE

Test Report of	Report Code	Date of Issue
Soil Quality Analysis	SQ-010822-031	06/08/2022

Issued To: M/s UKPCB  
 Address: Kashipur, Uttarakhand

### Sampling & Analysis Data

Sample Received On : 01/08/2022  
 Sample Description : Soil Sample  
 Sample Quantity : 2.0 Kg  
 Sample Drawn By : NTL  
 Coordinates : 29.1297739, 78.9497774  
 Location : Near BPCL Petrol Pump Madina Masjid Kashipur  
 Analysis Duration : 01/08/2022 to 06/08/2022

Sl. No.	Parameters	Unit	Results	Test Method	
1.	pH	-	7.80	IS:2720(Part-26)	
2.	Electrical Conductivity at 25° C (1:5suspension)	µmhos/cm	456	IS:2720(Part-21)	
3.	Sodium (as Na)	(mg/kg)	112.0	STP/SOIL	
4.	Water holding capacity	(%) by mass	26.50	STP/SOIL	
5.	Potassium (as K)	(kg/ha)	289.0	STP/SOIL	
6.	Texture	Sand	(%) by mass	64.0	STP/SOIL
		Clay	(%) by mass	18.0	STP/SOIL
		Silt	(%) by mass	18.0	STP/SOIL
7.	Calcium (as Ca)	(mg/kg)	860.0	STP/SOIL	
8.	Magnesium (as Mg)	(mg/kg)	210.0	STP/SOIL	
9.	Sodium Absorption Ration (SAR)	-	2.78	STP/SOIL	
10.	Cation Exchange Capacity (CEC)	(meq/100gm)	1.02	STP/SOIL	
11.	Available Phosphorus (as P)	Kg/ha	75.4	STP/SOIL	
12.	Organic carbon	(%) by mass	0.26	STP/SOIL	
13.	Porosity	(% by mass)	41.0	STP/SOIL	
14.	Bulk Density	(g/cm <sup>3</sup> )	1.28	STP/SOIL	
15.	Nitrogen	Kg/ha	172.0	STP/SOIL	
16.	Silica content (as SiO <sub>2</sub> )	% by mass	65.0	STP/SOIL	
17.	Zinc (as Zn)	mg/kg	14.8	STP/SOIL	
18.	Lead (as Pb)	mg/kg	1.25	STP/SOIL	
19.	Nickel (as Ni)	mg/kg	4.56	STP/SOIL	
20.	Copper (as Cu)	mg/kg	8.62	STP/SOIL	
21.	Total Chromium (as Cr)	mg/kg	1.85	STP/SOIL	

#### Notes:

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## WHO Guidelines for Soil

Elements	*Target value of soil (mg/kg)	***Permissible value of plant (mg/kg)
Cd	0.8	0.02
Zn	50	0.60
Cu	36	10
Cr	100	1.30
Pb	85	2
Ni	35	10

\*Target values are specified to indicate desirable maximum levels of elements in unpolluted soils

Source: Denneman and Robberse 1990; Ministry of Housing, Netherlands 1994

\*\*\*Source: WHO (1996)

**Table 11:** WHO permissible limits for heavy metals in plant and soil.

## Standard Classification of Soil

S. No.	Soil Test	Classification
1.	pH	<4.5 Extremely acidic 4.51- 5.50 Very strongly acidic 5.51-6.0 moderately acidic 6.01-6.50 slightly acidic 6.51-7.30 Neutral 7.31-7.80 slightly alkaline 7.81-8.50 moderately alkaline 8.51-9.0 strongly alkaline 9.01 very strongly alkaline
2	Salinity Electrical Conductivity (mmhos/cm) (1 ppm = 640 mmho/cm)	Upto 1.00 Average 1.01-2.00 harmful to germination 2.01-3.00 harmful to crops (sensitive to salts)
3	Organic Carbon	Upto 0.2: very less 0.21-0.4: less 0.41-0.5 medium, 0.51-0.8: on an average sufficient 0.81-1.00: sufficient >1.0 more than sufficient
4	Nitrogen (Kg/ha)	Upto 50 very less 51-100 less 101-150 good 151-300 Better >300 sufficient
5	Phosphorus (Kg/ha)	Upto 15 very less 16-30 less 31-50 medium, 51-65 on an average sufficient 66-80 sufficient >80 more than sufficient
6	Potash (Kg/ha)	0 -120 very less 120-180 less 181-240 medium 241-300 average 301-360 better >360 more than sufficient

Source : Hand Book of Agriculture, ICAR (India Council of Agriculture Research ) New Delhi