V.M.V.V Sangha's

V.M. K. S. R. Vastrad Arts Science And V.S Bellihal Commerce college, Hungund

Department of Botany Year 2022-2023

Project reports by B.sc II semester students

Principal
Vijaya Mahantesh Krupaposhit
S.R Vastrad Arts, Science & V.S.Bellihal
Commerce College,Hungund-587118

Sl.no	Reg. No.	Student Name	Project topic
1	U15IY22S0004	Shivashankarappa	Water puification
2	U15IY22S0005	Adil	Water puification
3	U15IY22S0016	Harish	Water purification
4	U15IY22S0025	Aishwarya	Water purification
5	U15IY22S0032	Jhanavi	Water puification

Botany
Head of the Department
V.M.K.S.R Vastrad Arts,Commerce And
Science College,Hungund Dist:Bag

V.M.K.S.R.VASTRADARTS, SCIENCE,&

V.S.BELLIHAL COMMERCE COLLEGE HUNGUND.

PROJECTREPORT

College Roll No: 25 Examination seat No: U15I422S0025

CERTIFICATE

This is to certify that ~~Mr~~./Miss: Aishwarya . C. Upanal. of B.Sc 2nd semester has satisfactorily completed the visit on **Water purification**of Botany subject as prescribed by the Rani Chennammna University Belagavi.

During year 2022-2023

Examiner: HOD

1). Rohini Pol

2). 14/9/23

Botany
Head of the Department
V.M.K.S.R Vastrad Arts,Commerce And Science College,Hungund, Dist:Bagalkot

V.M.S.R VASTRAD ARTS, SCIENCE & V.S BELLIHAL COMMERCE COLLEGE, HUNGUND.

WATER PURIFICATION

Project done by

AISHWARYA CHANDAPPA UPANAL
Reg No : U15IY22S0025
BSc 2nd Sem
BOTANY
RANI CHENNAMMA UNIVERSITY BELAGAVI
2022-23

FIELD VISIT TO WATER TREATMENT PLANT

HUNGUND

REPORT

1. INTRODUCTION

VMSR VASTRAD COLLEGE DEPARTMENT OF SCIENCE organized a field visit to Water Treatment Plant, HUNGUND.

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The objectives of visiting the water treatment plant are:-

- To study the types of water treatment plant used.
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3. WATER TREATMENT PROCESS

i. COLLECTION:-
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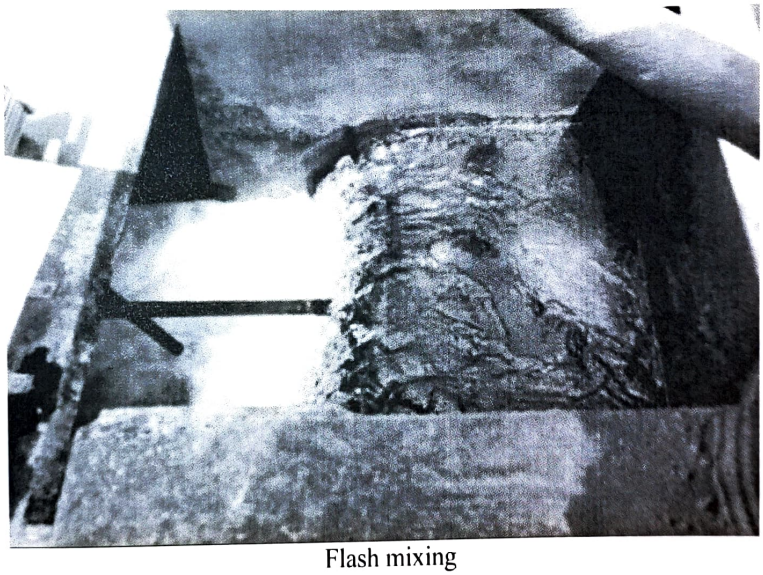
The raw water is first treated with chemical coagulant alum. The dose of alum varies depending upon the turbidity, color, temperature & pH of the water.

iii. FLASH MIXING:-
Treated water is then subjected to violent agitation in a mixing chamber for a few minutes. This allows quick and rapid dissemination of alum throughout the bulk of the water.



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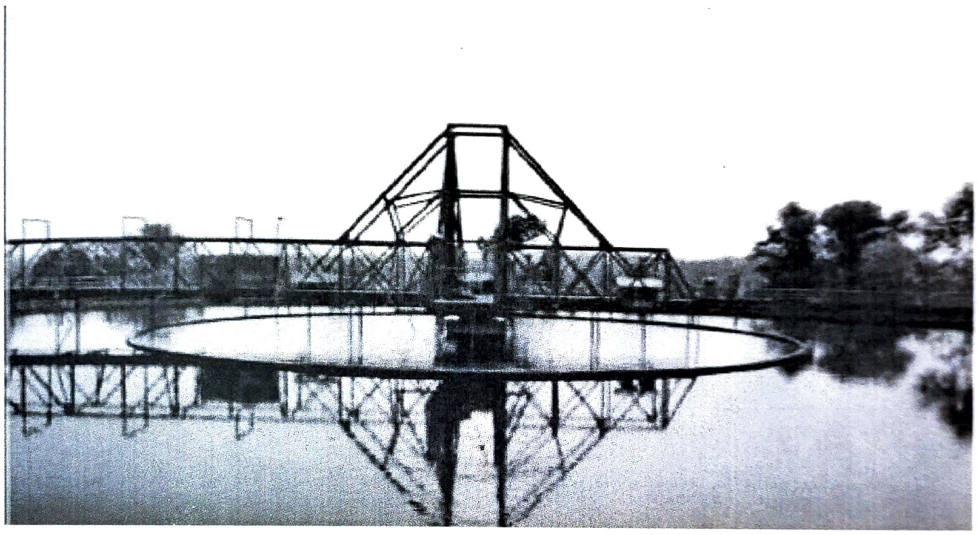

Clariflocculator

v. SEDIMENTATION:-
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-Each filter unit has 6 sand beds – coarse pebble, fine pebble, coarse gravel, fine gravel, coarse sand, fine sand.
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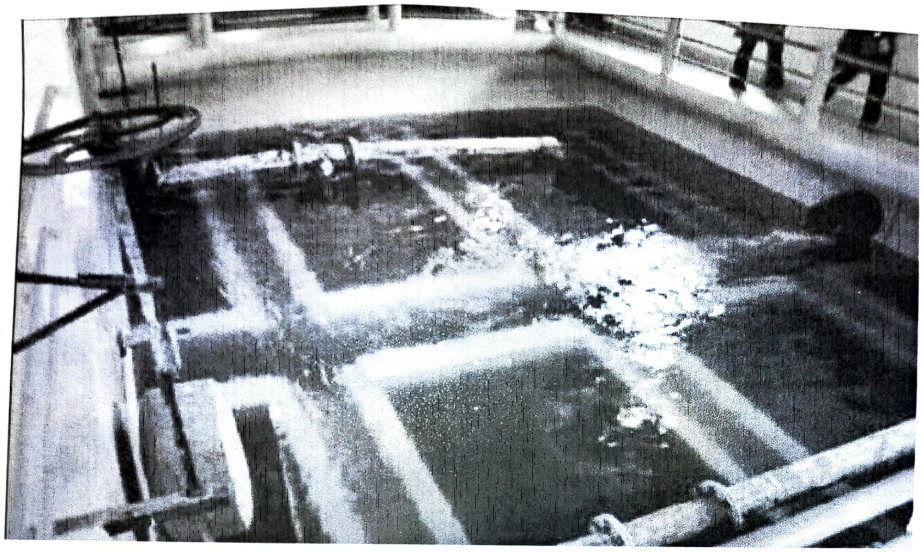

Sand filtration bed

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ix. RESERVOIR :-
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4. CONCLUSION

Water plays a very important role in human life, whether for daily routine purpose or human health. This field visit gave us the knowledge about the purification of water on large scale and made us aware about the quality of water since it may affect the human health especially. Also the trip made us realized that it is not easy to supply the water directly from the main supply to the people. Thus, thanks to the responsible party and the workers who invested in this project to ensure the health and convenience of the people in Aluva and Ernakulam and the faculties for planning this event smoothly.

V.M.K.S.R.VASTRADARTS, SCIENCE,&

V.S.BELLIHAL COMMERCE COLLEGE HUNGUND.

PROJECTREPORT

College Roll No: 16 Examination seat No: U15I422S0016

CERTIFICATE

This is to certify that Mr./~~Miss:~~ Harish. H. Hoonoor of B.Sc 2nd semester has satisfactorily completed the visit on **Water purification**of Botany subject as prescribed by the Rani Chennammna University Belagavi.

During year 2022-2023

Examiner: HOD

1). Rohinipol

2). 1/9/23

Botany
Head of the Department
V.M.K.S.R.Vastrad Arts,Commerce and
Scien... Hungund Di...

V.M.S.R VASTRAD ARTS, SCIENCE & V.S BELLIHAL COMMERCE COLLEGE, HUNGUND.

WATER PURIFICATION

Project done by

HARISH.H.HUNOOR
Reg No : U15IY22S0016
BSc 2nd Sem
BOTANY
RANI CHENNAMMA UNIVERSITY BELAGAVI
2022-23

FIELD VISIT TO WATER TREATMENT PLANT

HUNGUND

REPORT

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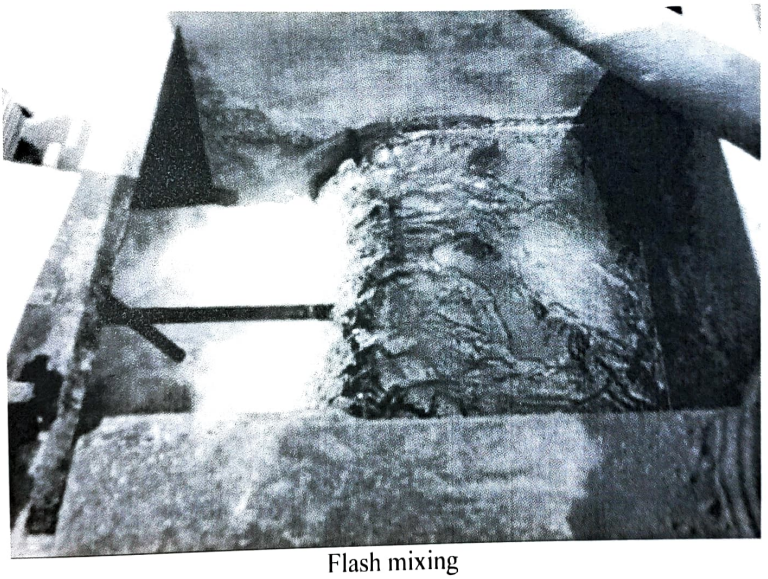

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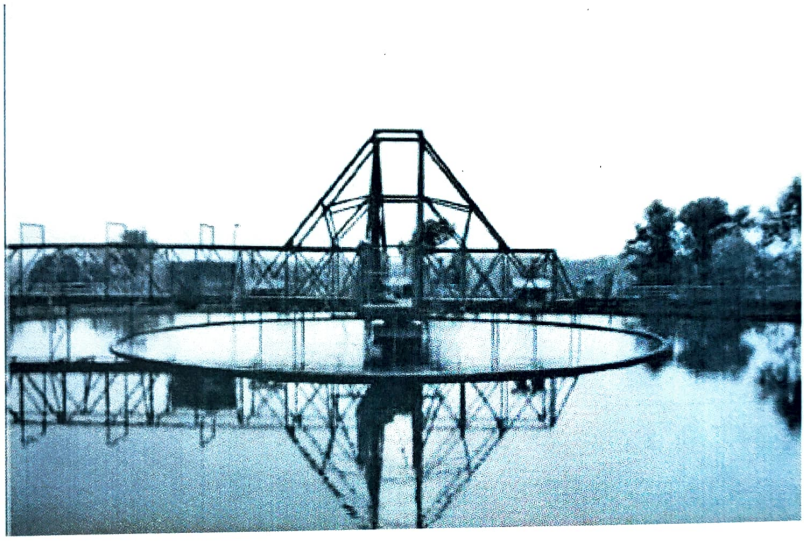

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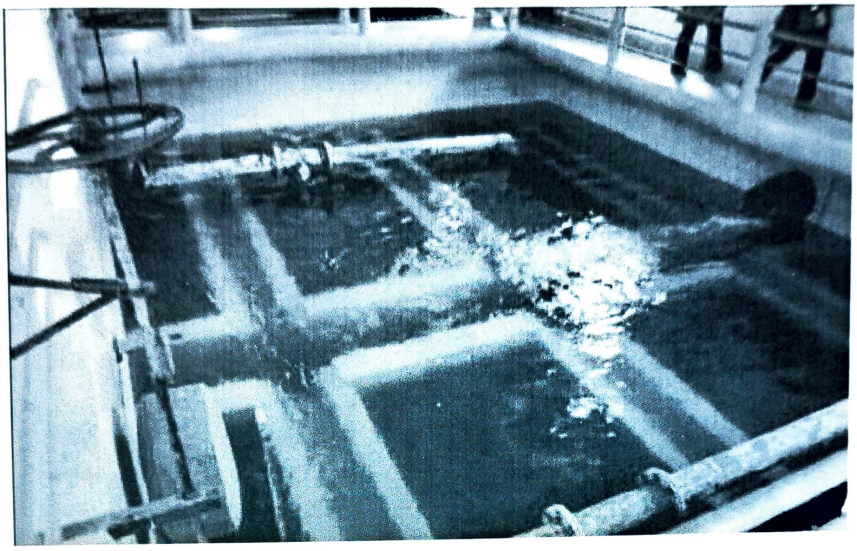

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/

V.M.K.S.R.VASTRADARTS, SCIENCE,&

V.S.BELLIHAL COMMERCE COLLEGE HUNGUND.

PROJECTREPORT

College Roll No:32 Examination seat No: U15IY22S0032

CERTIFICATE

This is to certify that ~~Mr~~./Miss: Jaavi. V. Devaraddi of B.Sc 2nd semester has satisfactorily completed the visit on **Water purification**of Botany subject as prescribed by the Rani Chennammna University Belagavi.

During year 2022-2023

Examiner: HOD

1). 14/9/23

2). .....14/9/23.....

Botany
Head of the Department
V.M.K.S.R.Vastrad Arts,Commerce And Science College,Hungund Dist:Bagalkot

V.M.S.R VASTRAD ARTS, SCIENCE & V.S BELLIHAL COMMERCE COLLEGE, HUNGUND.

WATER PURIFICATION

Project done by

JANAVI .V. DEVARADDI
Reg No : U15IY22S0032
BSc 2nd Sem
BOTANY
RANI CHENNAMMA UNIVERSITY BELAGAVI
2022-23

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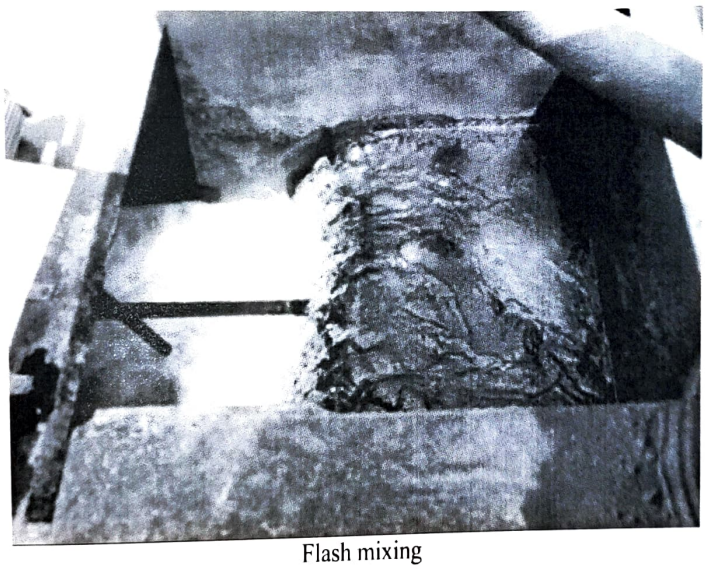

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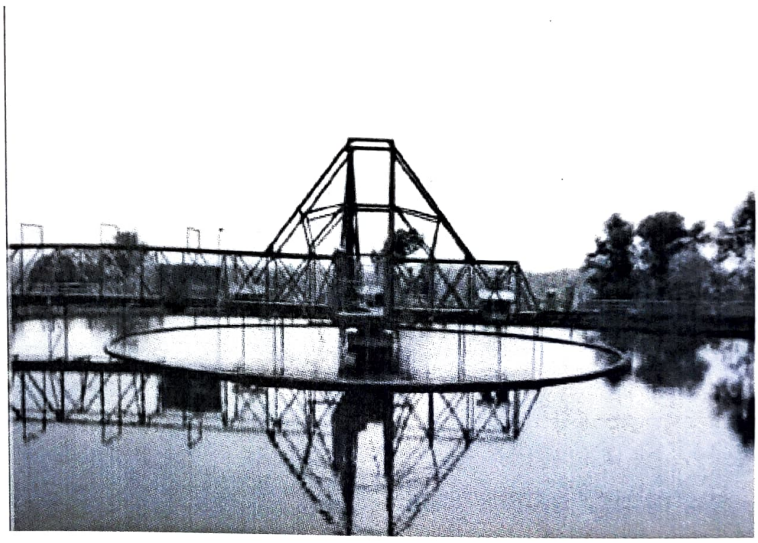

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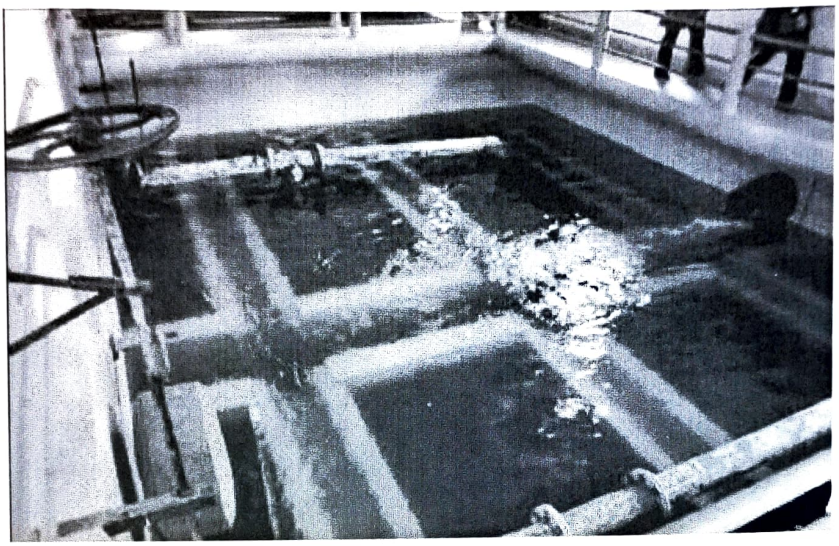

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V.M.K.S.R.VASTRADARTS, SCIENCE,&

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PROJECTREPORT

College Roll No: 04 Examination seat No: U15J422S0004

CERTIFICATE

This is to certify that Mr./~~Miss~~: Shivashankarappa R.S. of B.Sc 2nd semester has satisfactorily completed the visit on **Water purification**of Botany subject as prescribed by the Rani Chennammna University Belagavi.

During year 2022-2023

Examiner: HOD

1). Rohini Pol

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Botany
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V.M.S.R VASTRAD ARTS, SCIENCE & V.S BELLIHAL COMMERCE COLLEGE, HUNGUND.

WATER PURIFICATION

Project done by

SHIVASHANKARPPA.R.SHILAVANTAR
Reg No : U15IY22S0004 .
BSc 2nd Sem
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2022-23

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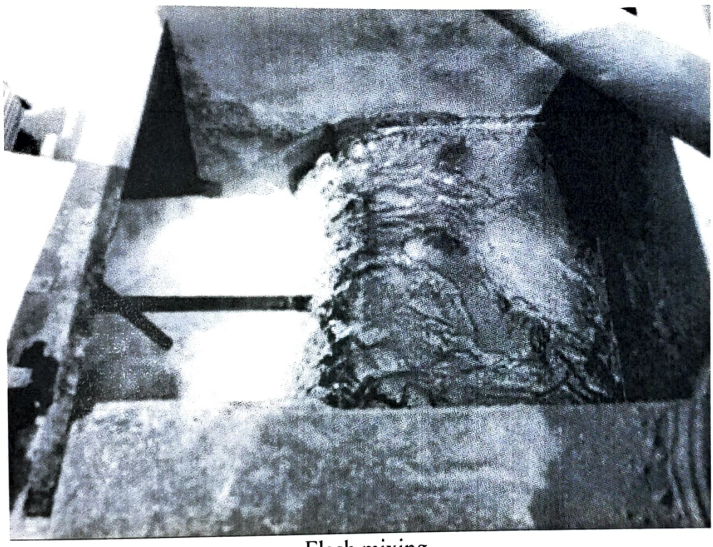

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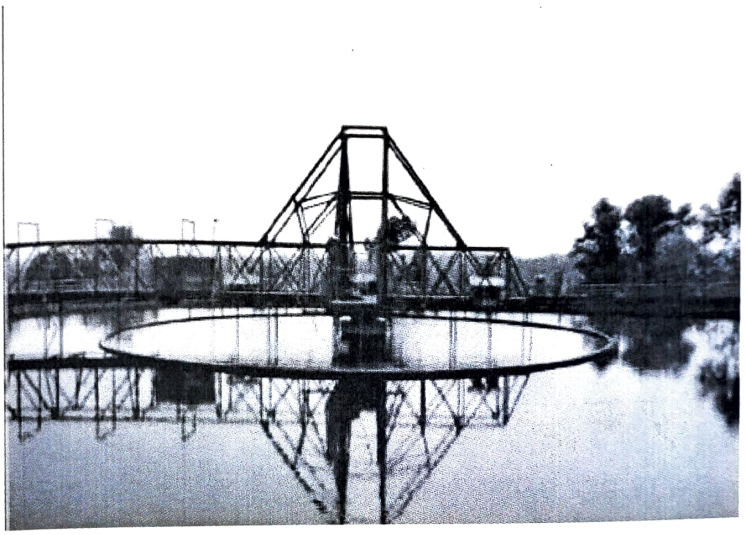

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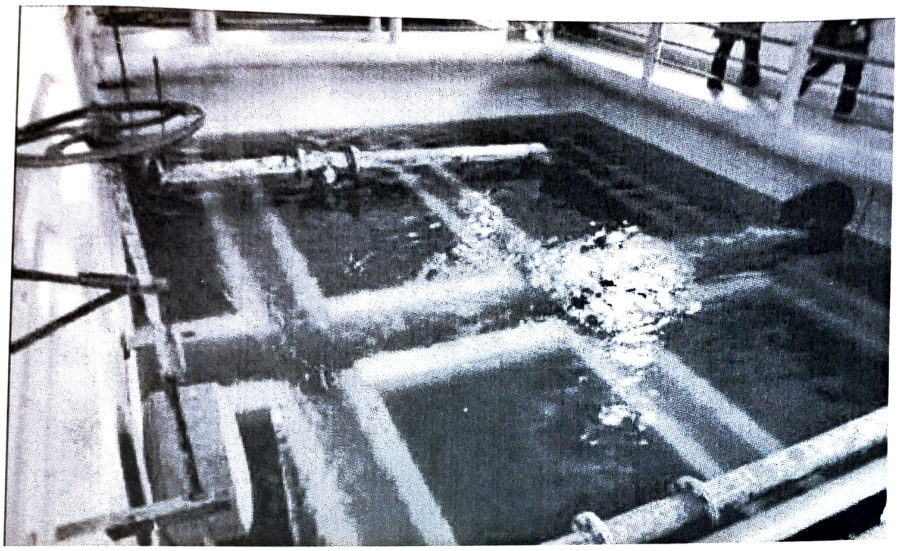

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PROJECTREPORT

College Roll No:05 Examination seat No: U15IY22S0005

CERTIFICATE

This is to certify that Mr./Miss: Adil. J. Mudakavi of B.Sc 2nd semester has satisfactorily completed the visit on **Water purification**of Botany subject as prescribed by the Rani Chennammna University Belagavi.

During year 2022-2023

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Botany
Head of the Department
V.M.K.S.R Vastrad Arts Commerce And
Science College, Hungund, Dist:Bagalkot

V.M.S.R VASTRAD ARTS, SCIENCE & V.S BELLIHAL COMMERCE COLLEGE, HUNGUND.

WATER PURIFICATION

Project done by

ADIL.I.MUDAKAVI
Reg No : U15IY22S0005
BSc 2nd Sem
BOTANY
RANI CHENNAMMA UNIVERSITY BELAGAVI
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FIELD VISIT TO WATER TREATMENT PLANT

HUNGUND

REPORT

1. INTRODUCTION

VMSR VASTRAD COLLEGE DEPARTMENT OF SCIENCE organized a field visit to Water Treatment Plant, HUNGUND.

*On 22nd July 2023 About 80 students joined the visit under the guidance of faculty of science. There a one of working staff explained well about the structure and working of the water purification plant and offered us a visit to the concerned areas. Students got an excellent benefit by visiting the biggest water purification plant in hungund with a capacity of 17.80 M.L.D. and understand about the purification methods.

*Water treatment is whereby the used water or raw water from the river is treated in process to make the water more acceptable for a desired end-used. The goal of water treatment is to remove existing contaminants in the water, or reduce the concentration of such contaminants so the water becomes fit for its desired end-used. The process involved in treating water is solids separation using physical process and chemical process.

*Before the water is distributed into the public houses, the water has to undergo the water treatment process such as follows: -

- Aeration are to eliminate unneeded dissolved gases such as (CO_2, H_2S,NH_3).
- It is also to increase DO level in water and remove DOC
- Coagulation is the removal of turbidity from the water.
- Turbidity is a cloudy appearance of water caused by small particles suspended therein. Water with little or no turbidity will clear.
- Flocculation is mixing process in which particles are brought into contact in order to promote their agglomeration
- Sedimentation is to remove suspended material from water by the action of gravity.
- Filtration is to remove suspended particles from water by passing the water through medium such as sand.
- Disinfection is to destroy pathogens within a practicable period of time.

- Water distribution is to satisfy the water requirements for a combination of domestic, commercial, industrial and fire-fighting purposes.

After water passes or flowing through all distinctive features, it's collected into water tank and ready to be supply to houses area.

2. OBJECTIVE

The objectives of visiting the water treatment plant are:-

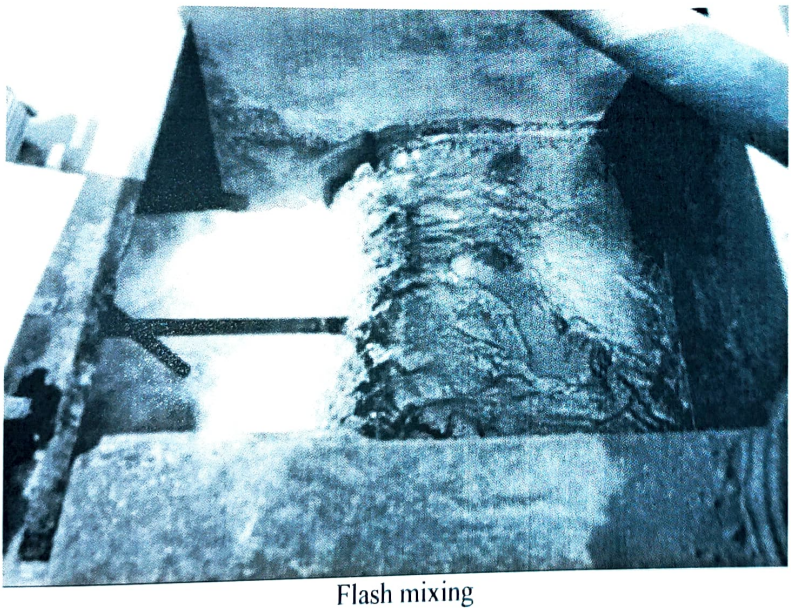
- To study the types of water treatment plant used.
- To study the process of water treatment.

3. WATER TREATMENT PROCESS

i. COLLECTION:-
The raw water which is supplied to the water treatment plant comes from periyar river.

ii. COAGULATION:-
The raw water is first treated with chemical coagulant alum. The dose of alum varies depending upon the turbidity, color, temperature & pH of the water.

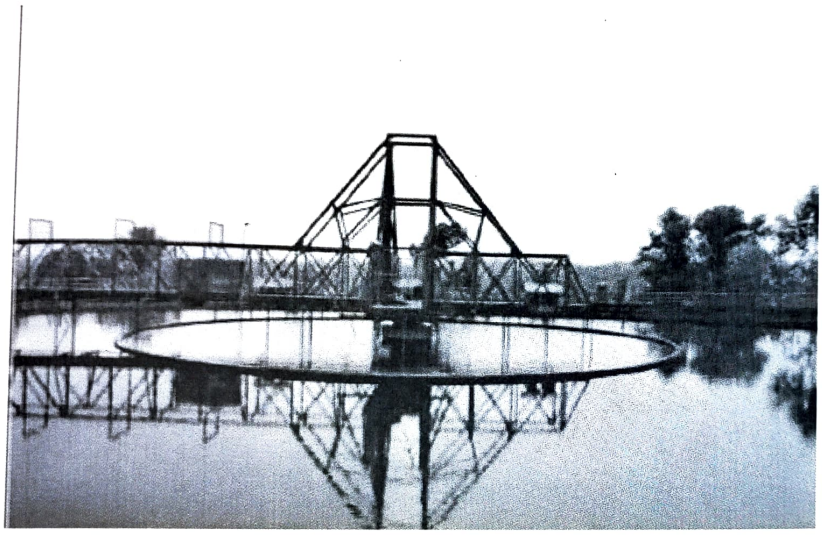
iii. FLASH MIXING:-
Treated water is then subjected to violent agitation in a mixing chamber for a few minutes. This allows quick and rapid dissemination of alum throughout the bulk of the water.



Flash mixing

iv. FLOCCULATION:-

This phase involves a slow and gentle stirring of the treated water in a flocculation chamber. The mechanized type of rotor is used. This causes the formation of thick copious white flocculent precipitate. The thicker the precipitate is, the higher is the settling velocity.



Clariflocculator

v. SEDIMENTATION:-

-The coagulated water is now lead into sedimentation tank where it is detained for 2-6 hrs when the flocculent precipitate together with impurities and bacteria settle down in the tank.

-At least 95% of the flocculent precipitate needs to be removed from the water before it is admitted to the rapid filters.

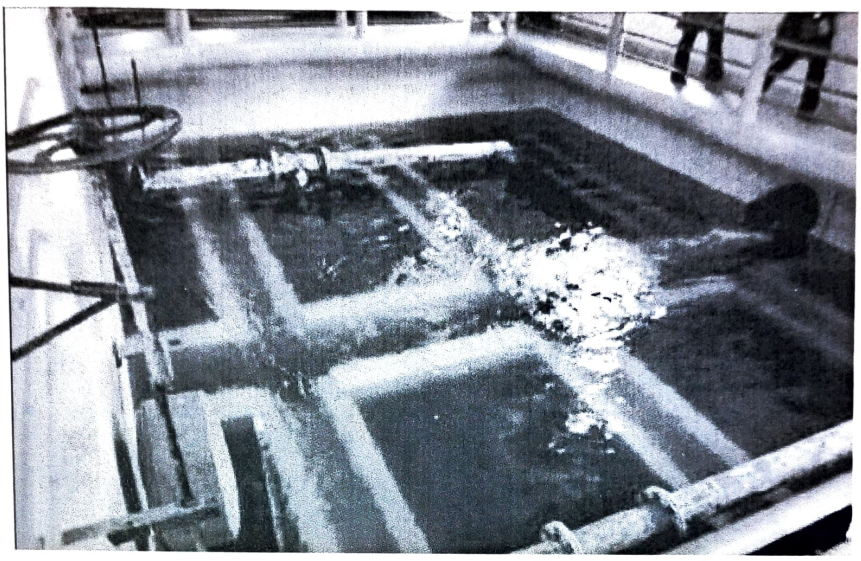
vi. FILTERATION:-

-Each filter unit has 6 sand beds – coarse pebble, fine pebble, coarse gravel, fine gravel, coarse sand, fine sand.

-The thickness of sand bed is 110 cm.

-The under drains at the bottom of the filter bed collects the filter water.

-Sandfilters getting dirty and beginning to lose efficiency approaching 7-8 feet needing, backwashing.



Sand filtration bed

vii. BACKWASHING :-

-As filter proceeds, the suspended impurities and bacteria clog the filters.
-The filter soon becomes dirty and begin to lose their efficiency and are subjected to backwashing.
-This is done by reversing the flow of water through the sand bed.
-Washing is stopped when clear sand is visible and the wash water is sufficiently clean.
-It takes about 15 minutes.

viii. DISINFECTION :-

-This is the last step before storage and distribution of this water.
-The process used is **chlorination.**
-The chlorine gas is used for effective disinfection.

ix. RESERVOIR :-

-We have visited the reservoir where the purified water was stored.
-From there it was supplied to various parts of Ernakulam and Aluva.

4. CONCLUSION

Water plays a very important role in human life, whether for daily routine purpose or human health. This field visit gave us the knowledge about the purification of water on large scale and made us aware about the quality of water since it may affect the human health especially. Also the trip made us realized that it is not easy to supply the water directly from the main supply to the people. Thus, thanks to the responsible party and the workers who invested in this project to ensure the health and convenience of the people in Aluva and Ernakulam and the faculties for planning this event smoothly.