BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL

WESTERN ZONE BENCH, BENCH

EXECUTION APPLICATION NO. 22 OF 2023

IN

ORIGINAL APPLICATION NO. 70 OF 2017 (WZ)

IN THE MATTER OF:

Karim Jahangir Shaikh …Applicant

Versus

Sahakar Maharishi Shivajirao

Narayanrao Nagawade, Ssk Ltd. & Ors. …Respondent

REPLY ON BEHALF OF THE RESPONDENT NO. 1 TO THE EXECUTION APPLICATION NO. 22 OF 2023 IN ORIGINAL APPLICATION NO. 70 OF 2017

PAPERBOOK

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COUNSEL FOR THE RESPONDENT NO. 1

SANGRAMSINGH R. BHONSLE

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NEW DELHI

DATE:02.09.2024

FILED BY:

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BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL

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REPLY ON BEHALF OF THE RESPONDENT NO. 1 TO THE EXECUTION APPLICATION NO. 22 OF 2023 IN ORIGINAL APPLICATION NO. 70 OF 2017

MOST RESPECTFULLY SHOWETH:

1. The Applicant herein has preferred the present Execution Application before this Hon'ble Tribunal seeking execution of Order dated 11.05.2022 passed by this Hon'ble Tribunal in O.A. No.70 of 2017 (hereinafter referred to as the "***order under execution***"). Vide the order under execution, this Hon'ble Tribunal had considered appropriate to direct the State PCB to verify the factual status and take necessary coercive measures if violations had been found in the Respondent No. 1 factory. Further, it was directed to take action to fix accountability of the Respondent No. 1,

if it was found that there were past violations. It was open for the Applicant to take remedies in accordance with law, if any grievance would have survived.

2. Vide the order dated 12.10.2023 in the present Execution Application, this Hon'ble Tribunal was pleased to issue notice to the Respondents and directed the Respondents to file the Reply. In terms thereof, the Respondent No. 1 is filing the present Reply to the Execution Application preferred by the Applicant.
3. At the outset all the contentions, averments, allegations and grounds raised in the Execution Application under Reply are denied/opposed and no contents thereof shall be deemed to be admitted by the Respondent by reason of non-traverse or by any other reason unless specifically admitted herein. The present Execution is misconceived, devoid of merits, *non-est* in the eyes of law and liable to be dismissed with exemplary costs.
4. The Respondent No. 2 & 3 i.e. the State PCB has filed a detailed reply dated 27.12.2023 in the present Execution Application demonstrating the action taken against the Respondent No. 1 in pursuance of the order under execution. The Respondent No. 1 seeks liberty of this Hon'ble Tribunal to rely upon the said Reply as and when necessary during the course of proceedings.
5. It is most respectfully submitted on behalf of the Respondent No. 1 that vide the order under Execution, the Appeal No. 106 of 2017 (WZ) was dismissed as not

maintainable and therefore only directions with regard to O.A. No. 70 of 2017(WZ) is required to be considered in the present Execution Application.

6. It is a well settled principle of law that the Execution Court cannot go beyond the decree i.e. the order of which the execution has been sought. From a bare perusal of Section 25 of the National Green Tribunal Act, it is clear that this Hon'ble Tribunal has jurisdiction to execute its orders as a decree of the Civil Courts, however, while doing so, this Hon'ble Tribunal may not go into the merits of the case and the purpose of the execution is to enforce the verdict of the order under Execution. It is submitted that the Para 5.6 to 5.13 of the present Execution Application, are nothing but a challenge to the order under execution and thus are going beyond the scope of present Execution Application. Therefore, vide the present Execution Application, the Applicant is seeking to reopen the grievances which are already settled by this Hon'ble Tribunal vide an order under execution and the same cannot be permitted in terms of the settled principles of law. Also, it is pertinent to note that Order dated 11.05.2022 passed by this Hon'ble Tribunal in O.A. No. 70 of 2017 (WZ) has not been challenged by the Applicant by filing an Appeal u/s 22 of the National Green Tribunal Act, 2010 nor has challenged the same in a Writ Petition before the Hon'ble High Court. In an absence of a challenge to the order under execution, the Applicant under the guise of the present Execution Application cannot set a challenge to the order dated 11.05.2022 and any such challenge would be beyond the contours of the

law of execution as it is a settled principle that in an execution one cannot seek relief beyond the decree. Therefore, the present Execution Application, having substantially challenged the order dated 11.05.2022, the present execution application being frivolous, ought to be dismissed in limine.

7. Further, it is submitted that vide the order under Execution, the Respondent No. 2 & 3 were directed to take action and fix a liability upon the Respondent No.1 for any violations. Thus, with utmost humility it is submitted that vide the present Execution Application, this Tribunal has limited scope to verify if any action in terms of the direction in Para 8 of the order under Execution has been initiated or not. On perusal of the Reply dated 27.12.2023 filed by Respondent No. 2 & 3 in the present Execution Application, it is clear that an adequate action has been taken by the State PCB including forfeiture of bank guarantee to the tune of Rs. 25,00,000/-. Thus, there is no iota of doubt that in terms of the directions in Para 8 of the order under Execution, the steps have been taken and therefore nothing survives in the present Execution Application. If at all, the Applicant has grievance with the action taken by the State PCB, the Applicant may take steps in accordance with law to challenge the action of the authorities.

8. Further, it is submitted that on 10.02.2022, an alleged blast in Molasses Tank had occurred in the premises of the Respondent No. 1. In-terms thereof, O.A. No. 85 of 2022 (WZ) is pending adjudication before this Hon’ble Tribunal. In terms of the

blast dated 10.02.2022 and in accordance with the directions passed by the Respondent Authorities, the Respondent No. 1 has appointed Vasantdada Sugar Institute to undertake damage assessment for Molasses Tank Burst in the Respondent No. 1 factory. The said issue of alleged contamination of Environment due to Molasses Tank Blast along with damage assessment by Vasantdada Sugar Institute is being monitored in the O.A. No. 85 of 2022 (WZ) by this Hon'ble Tribunal. The VSI Pune after conducting a detailed assessment has filed a final "*Damage Assessment Report for Molasses Tank Burst accident occurred at M/s Sahakar Maharshi Shivajirao Narayanrao Nagavade*" in August 2023. The said report was brought on record before this Hon'ble Tribunal by the Respondent No. 1 herein in O.A. No. 85 of 2022. Vide the said Report, the VSI Pune has calculated a total compensation to the tune of Rs. 2,02,03,998.00/- to be payable by the Respondent No. 1. The Respondent No. 1 has with the prior permission of this Hon'ble Tribunal has also filed a preliminary reply to the final report of August 2023 contending that the sampling procedure followed by the VSI Pune is not in accordance with law and the said report lacks application of mind. It is submitted that the said report is pending consideration before this Hon'ble Tribunal.

A copy of the Interim Directions dated 17.10.2022 passed by the Respondent No. 2 directing appointment of VSI Pune for damage assessment is enclosed herewith as **ANNEXURE R-1.**

A copy of the *Damage Assessment Report for Molasses Tank Burst accident occurred at M/s Sahakar Maharshi Shivajirao Narayanrao Nagavade*" of August 2023 filed in O.A. No. 85 of 2022 is enclosed herewith is **ANNEXURE R-2.**

A copy of the Preliminary Reply dated 08.02.2024 to the Damage Assessment Report of August 2023 filed on behalf of Respondent No. 1 in O.A. No. 85 of 2022 is enclosed herewith **ANNEXURE R-3.**

A copy of the Order dated 09.02.2024 passed by this Hon'ble Tribunal in O.A. No. 85 of 2022 showing that the damage assessment report of VSI Pune being considered by this Hon'ble Tribunal is enclosed herewith as **ANNEXURE R-4.**

Therefore, considering the documents annexed herein above and facts placed on record, it is submitted that if at all the independent environmental damage is directed to be assessed, the same would lead to *double jeopardy* and therefore, the present Application may be dismissed *in-limine.*

9. Without prejudice to the Preliminary Objections raised herein above it is submitted that the present Execution Application is devoid of merits and misconceived as the same does not disclose complete set of facts. Therefore, the Respondent No. 1 seeks to bring on record facts showing action taken by the Respondent No. 2 and 3 authorities against the Respondent No.1 in terms of the order under Execution which are necessary for the proper adjudication of the present case.

a. At the outset, it is submitted that during the pendency of the O.A. No. 70 of 2017 (WZ), on 10.02.2022 an accidental blast occurred in the premises of the Respondent No. 1. After the said blast, the Respondent No. 1 took immediate steps to mitigate the effects of environmental damages caused due to the said blast.

b. Subsequently, an order under Execution was passed by this Hon'ble Tribunal. In pursuance of the said order, the Respondent No. 2 has conducted various site visits to verify the factual status of the environmental measures undertaken by the Respondent No. 1 factory. The details of the said site visit reports along with show cause notices issued by the Respondent No. 2 *forms the part of the record before this Hon'ble Court from Page 64 to 74 of the Paper Book* and have not been repeated herein for the sake of brevity. However, the Respondent No. 1 seeks to rely upon the same as and when necessary.

c. It is the case of the Applicant that the Respondent No. 1 Industry is damaging the Environment. After the accidental blast on 10.02.2022, the Officers of the Respondent No.2 immediately conducted an inspection of the Respondent No.1 Industry, thereby leading to issuance of a Stop Work Order dated 10.02.2022 against the Respondent No.1 Industry.

d. In pursuance thereof, it is submitted that, the Respondent No.1 Industry on 25.02.2022 with due diligence replied to the Stop Work Notice dated 10.02.2022

issued by the Respondent No.2/MPCB, wherein it was stated by the Respondent No.1 Industry that the Operations of the Industry could not have been stopped in terms of the Order dated 08.02.2022 issued by the Sugar Commissioner, Government of Maharashtra. Thus, vide the said reply dated 25.02.2022 filed by the Respondent No.1 Industry, the Respondent No.1 Industry communicated its inability to stop the Operations in terms of Stop Work Order dated 10.02.2022. A copy of the Reply dated 25.02.2022 filed by the Respondent No.1 Industry to the Stop Work Order issued by Respondent No.2 as well as a copy of the Notification dated 08.02.2022 issued by the Sugar Commissioner, Government of Maharashtra is enclosed herewith and marked as **ANNEXURE R-5. (COLLY)**

e. Also, the Respondent No. 2 in pursuance of the orders passed by this Hon'ble Tribunal in O.A. No. 85 of 2022(WZ) prepared a Joint Committee Report dated 31.10.2022. Vide the said report, the Respondent No. 2 in Conclusion No. xi has categorically recorded the due and diligent attitude of the Respondent No.1 Industry in catering to the damage caused due to the accidental blast dated 10.02.2022. It has been recorded that after, the molasses was spread in the ETP area and also flown to the area i.e. Barren land towards South West Direction (Outside the compound wall, within the purview of the Industry) and ultimately

to the Malicha Nala/Natural drain, the Respondent No.1 Industry immediately contained the spread of molasses by creating an artificial earthen bund at the natural drain and recollected- 2340 MT of molasses contaminated water and transferred to 5 days lined spent wash storage lagoon. Also, the Respondent No.1 Industry collected- 9915 MT of molasses contaminated soil by scrapping top layer of soil (10 cm) from 1 Acre of their own land and also scrapped the bottom layer of soil (10 cm) from the Natural drain and transferred it to the existing bio-compost yard. Also, the Respondent No.1 Industry treated the collected molasses contaminated water in their existing ETP of Distillery Unit and utilized the same in Bio-Compost preparation. Similarly, the collected molasses contaminated soil was utilized by the Respondent No.1 Industry by proportionating the same with the press mud and other activities for preparation of Bio-compost. Thus, in terms thereof, it is submitted that admittedly an accidental blast occurred at the Respondent No. 1 Industry, however the same was duly taken care of by the Respondent No.1 Industry as well as the Respondent No.2/MPCB. Therefore, its is clear that the Respondent No. 1 under the guidance of Respondent No. 2 is taking all possible efforts to adhere to the Environmental Norms in terms of the order under Execution.

A copy of the Joint Committee Report dated 31.10.2022 filed by the Respondent No. 2 in O.A. No. 85 of 2022 (WZ) is enclosed herewith as **ANNEXURE R-6.**

f. Thereafter, on 29.09.2022 the Respondent No.2 issued a Show Cause Notice to the Respondent No.1 Industry for non-compliance of various environmental enactments and also forfeited Bank Guarantee of Rs.25 Lakhs for non-compliance of Consent to Operate (CTO) Conditions. Therefore, in compliance of the order under Execution the Respondent No. 2 has assessed the accountability of the Respondent No. 1 Industry to the tune of Rs. 25 Lakhs and have execute the said order by forfeiting the Bank Guarantee.

g. In furtherance of the said accidental blast the Respondent No.2/MPCB issued Interim Directions dated 17.10.2022 to the Industry u/s 33A of the Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981.

h. Vide the said Interim Directions dated 17.10.2021, the Respondent No.2/MPCB directed the Respondent No.1 Industry to carry out assessment on contamination of soil, cost of remediation and damage assessment through NEERI/IIT/VSI. The Respondent No.1 Industry immediately on 22.10.2022 in compliance of the Interim Directions dated 17.10.2022 issued a work order to M/s VSI, Pune for

carrying out soil contamination assessment study including damages to recipient environment and remedial measures thereto.

i. The VSI, Pune after conducting a detailed inspection filed a final "*Damage Assessment Report for Molasses Tank Burst accident occurred at M/s Sahakar Maharshi Shivajirao Narayanrao Nagavade*" in August 2023 wherein a total compensation to the tune of Rs. 2,02,03,998.00/- has been levied upon the Respondent No. 1. The Respondent No. 1 has filed preliminary objection to the said report on the ground of improper sampling and non-application of mind and the same is pending consideration before this Hon'ble Court. The said report and the preliminary objections filed by the Respondent No. 1 are annexed herein above.

j. Thereafter, on a consideration of the circumstances mentioned herein above and in terms of the Application made by the Respondent No.1 Industry the case of the Respondent No.1 Industry was considered by the Consent Appraisal Committee of the Respondent No. 2, vide its 6th meeting dated 30.08.2022. A copy of the minutes of 6th meeting of the Consent Appraisal Committee of the Respondent No.2 dated 30.08.2022 is enclosed herewith as **ANNEXURE R-7.**

k. The Consent Appraisal Committee after considering the Application as well as the Compliance Status of the Respondent No.1 Industry, was pleased to issue

"Renewal of Consent dated 08.11.2022 for 30 KLPD Molasses based Distillery, under Red Category" and "Renewal of Consent dated 11.11.2022 for 3500 TCD sugar and 26 MW Co-generation unit, under Red Category". Thus, it is submitted that there is no iota of doubt, that the Respondent No.1 Industry is in compliance of all the Terms and Conditions as levied by the Respondent No.2/MPCB in order to regulate the Sugar producing activity of the Respondent No.1 Industry as well as to protect the environment. The Renewal of Consent to Operate dated 08.11.2022 was renewed by the Respondent No. 2 on 01.02.2024 and the same is valid till 31.08.2024. The Renewal of Consent dated 11.11.2022 was further renewed on 22.10.2023 and the same is valid till 31.07.2023. A copy of the "Renewal of Consent dated 01.02.2024 for 30 KLPD Molasses based Distillery, under Red Category" issued by the Respondent No.2/MPCB to the Respondent No.1 Industry is enclosed herewith as **ANNEXURE R-8**.

A copy of the "Renewal of Consent dated 22.10.2023 for 3500 TCD sugar and 26 MW Co-generation unit, under Red Category" issued by the Respondent No.2/MPCB to the Respondent No.1 Industry is enclosed herewith as **ANNEXURE R-9**.

10. From the facts mentioned hereinabove, it is clear that the Respondent No. 2 has taken substantial steps in terms of the order under Execution and the compliance in

terms of Para 8 of the Order has already been made and therefore prayers as sought by the Applicant in the present Execution Application has become infructous.

PARA WISE REPLY

11. The contents of Para 1, 2 and 3 are matter of record and hence need no reply.

12. With regards to Contents of Para 4.1, it is submitted that the Applicant herein is in the habit of dragging the Respondent No. 1 into false litigation thereby filing frivolous and baseless complaints and portraying himself as a "victim" on the baseless grounds and therefore the contents of Para 4.1 are denied

13. The contents of Para 4.2 are denied and it is submitted that the Respondent No. 1 is operating with all required legal permissions in terms of Environmental Norms. The Consent to Operate in terms of the Environmental Laws are mentioned and annexed hereinabove and the Respondent No. 1 seeks to rely upon the same.

14. The contents of Para 4.3 are accepted except the allegations that the 160 acres of land is a reserve forest. The issue with respect to the land being reserve forest was raised before this Hon'ble Tribunal in O.A. 84 of 2019 (WZ) and same was decided in the favour of the Respondent No. 1 vide the judgment dated 10.01.2024.

A copy of the Judgment dated 10.01.2024 passed by this Hon'ble Tribunal in O.A. No. 84 of 2019 (WZ) is enclosed herewith as **ANNEXURE R-10**.

15. The contents of Para 4.8 to 4.18 is demonstration of happening of events in the O.A. No. 70 of 2017 which was ultimately disposed by the order under execution. Thus, all the allegations in the said paragraphs is unnecessary reiteration of the facts which has no impact in adjudication of the present case. Therefore, the contents of Para 4.8 to 4.18 are denied.

16. The contentions in Para 5.1 to 5.6 are denied as the Respondent No. 2 have taken the action against the Respondent No. 2 in pursuance of the order under execution and has also forfeited a bank guarantee of Rs. 25 Lakhs. The detailed action taken by the Respondent No. 2 has been explained in the Reply filed by the Respondent No. 2 in the present Execution Application as well as herein in the present reply. Therefore, the allegations raised and grounds sought by the Applicant vide Para 5.1 to 5.6 are baseless and devoid of merits. Interestingly, in Para 5.5, the Applicant has raised allegations such as illegal things might have happened for favoring Respondent No. 1. Such allegations are made when the Applicant is well aware that this Hon’ble Tribunal is considering O.A. No. 85 of 2022. Thus, such conduct of the Applicant is abuse of process of law and shows the disrespect of the applicant this Hon’ble Court.

17. With regards to the contents of Para 5.7 to 5.13 has been aptly replied by the present answering Respondent No. 1 in the Para 6 & 7 herein above. It is further submitted that the Grounds in Para 5.7 to 5.13 are like the grounds challenging the order under Execution and in terms of the settled principles of law and does not stand the teste of law.

18. With regard to Para 6.1, it is submitted that the Respondent No. 1 under the guidance of the Respondent No. 2 is complying with all the environmental norms. Also the damage assessment due to the Molasses Blast is being undertaken by the Respondent No. 1 through VSI which is being monitored by this Hon'ble Court in O.A. No. 85 of 2022. Therefore, the contents of Para 6.1 are denied.

19. With regard to Para 6.2, it is submitted that that the Applicant herein is in the habit of dragging the Respondent No. 1 into false litigation thereby filing frivolous and baseless complaints and portraying himself as a "victim" on the baseless grounds and therefore the contents of Para 6.2 are denied.

20. The contents of Para 6.3 to 6.8 need no reply.

REPLY TO THE PRAYERS

In view of the facts, circumstances and the averments herein above, it is most respectfully prayed that this Hon'ble Tribunal may be pleased to dismiss the present execution application with exemplary costs.

NEW DELHI

DATE: 02.09.2024

FILED BY:

Sangramsingh R. Bhonsle
Advocate for the Respondent No. 1
H-5, Second Floor, Lajpat Nagar III,
New Delhi-110024
Mobile: 9545809120
Email: srb.chambers@gmail.com

NOTED & REGISTERED AT.
SERIAL NO. 6841 2024

Page No. 108 | 2
Shrigonda 2024

NOTARY
RAMBHAU P KAUTHALE
SHRIGONDA
DIST. A. NAGAR
REG. NO. 10373
EXP DATE 8/10/2028
GOVERNMENT OF INDIA

BEFORE THE NATIONAL GREEN TRIBUNAL,

WESTERN ZONE BENCH PUNE

EXECUTION APPLICATION NO. 22 OF 2023 (WZ)

Karim Jahangir Shaikh ...Applicant

Vs.

Shahakar Maharshi Shivajirao Narayanrao
Nagawade SSK Ltd. & Ors. ...Respondent(s)

AFFIDAVIT

I, Mr. Nana Manaji Kalamkar, Age: about 49 years, Occupation: Production Manager of the Respondent No. 1 Sugar Factory, Having Office At: Shrigonda Factory, Taluka Shrigonda, District- Ahmednagar- 413726, Maharashtra, do hereby state on solemn affirmation as under:

1. That I am the Authorized Representative of the Respondent No. 1 in the above-named Application. I am conversant with the facts and circumstances of the case and as such competent to swear the present Affidavit.
2. That the contents of the Paras 1 to 20 of the Reply are facts true to my knowledge and contains submissions and prayers to this Hon'ble Tribunal based on legal advice and the same is believed to be true and correct.
3. That the annexures filed along with the Reply are the true copies of their respective originals.

DEPONENT

VERIFICATION

Verified at Shrigonda on this Thursday day of 18/04/2024 that the contents of the present affidavit are true and correct and nothing material has been concealed therefrom.

NOTARY GOVERNMENT OF INDIA

DEPONENT

Page No.	2/2
Shrigonda	2024

BEFORE ME
Solemnly affirmed before me
by [illegible]
who is identified before me
by S. R. [illegible]
whom I personally know.

I Know affiant

NOTARY
RAMBHAU P
KAUTHALE
SHRIGONDA
DIST. A. NAGAR
REG. NO. 10373
EXP DATE
8/10/2028
GOVERNMENT OF INDIA

BEFORE ME
RAMBHAU P. KAUTHALE
NOTARY PUBLIC, GOVT. OF INDIA
SHANI CHOWK, SHRIGONDA
TAL. SHRIGONDA, DIST. A.NAGAR
MOB: 9423463092 / 9595373537

18 APR 2024

ANNEXURE R-1

MAHARASHTRA POLLUTION CONTROL BOARD

Tel.No.(0253) 2362820

E-mail: ronashik@mpcb.gov.in

"Your Service is our Duty"

Regional Office- Nashik,
Udyog Bhavan, 1st floor,
Trimbak Road, MIDC Comp.
Near ITI., Satpur, Nashik-422007.

BY R.P.A.D./FAX/HAND DELIVERY

No: MPCB/RONK/ID/2210/7000/ /2022 Date: -17/10/2022

To,

M/s. Sahakar maharshi Shivajirao Narayanrao Nagawade SSK Ltd, (Distillery Unit)
Plot No. 52/1, A/p. Limpangaon, Tq. Shrigonda,
Dist. Ahmednagar.

Sub: Interim Directions under Section 33 A of Water (P & CP) Act, 1974 & under Section 31A of Air (P & CP) Act.1981.

Ref: 1. Proposed Directions issued on 9.2.2022.
2. Personal hearing extended on 28.7.2022 at HQ.

This refers to the proposed directions issued by the Board vide above referred letter (1) and personal hearing extended to factory representative on 28.7.2022. During the personal hearing as agreed by your representative, it is directed to comply the following directions in time bound manner.

1. Industry shall carryout the assessment of contamination, cost of remediation and damage assessment through NEERI/IIT/VSI within two months.
2. Industry shall comply with recommendations of report submitted by the institute at Sr. No. 1 above before six months and report the remedial action taken as per suggestion of expert agency before next crushing season.
3. Industry shall ensure OCEMS connectivity to MPCB server within 7 days.
4. Industry should not dispose spent wash sludge to any party.

If you fails to comply these directions in time bound manner, the Board will have no any other option than to issue final directions such as disconnection of electricity and water supply of your industry, which may be noted.

(Ravindra B. Andhale)
Regional Officer, Nashik.

Copy Submitted for information to: -
The Principal Scientific Officer, M.P.C. Board, Mumbai.

Copy forwarded to: -
Sub- Regional Officer MPCB, Ahmednagar – He is directed to serve the copy of these directions to the industry & submit timely compliance report along with photographs and monitoring reports of the said directions scrupulously.

TRUE COPY

ANNEXURE R-2

Damage Assessment report for molasses tank burst accident occurred at

M/S. SAHAKAR MAHARSHI SHIVAJIRAO NARAYANRAO NAGAWADE
Sahakari Sakhar Karkhana Ltd.,
Village Limpangaon, Tal. Shrigonda,
Dist. Ahmednagar- 413726

● Prepared by ●

VSI
संशोधनेन संवृद्धिः

VASANTDADA SUGAR INSTITUTE

Manjari (Bk.), Tal.:Haveli, Dist.:Pune-412 307, Maharashtra. Ph. : (020) 2690 2100, Fax : (020) 26902244
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ISO 9001:2015 Certified

NABET Accreditated

*Accredited by QCI/NABET for EIA consultancy services,
(Certificate No. NABET/EIA/2023/RA 0208)
Recognized R & D Center by Department of Scientific and Industrial Research (DSIR),
Ministry of Science and Technology, Government of India Recognized Post Graduate &
Research Centre of 'Savitribai Phule Pune University'

AUGUST - 2023

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VSI
संशोधनेन संवृद्धिः
ISO 9001:2015
VASANTDADA SUGAR INSTITUTE
Manjari (Bk.) Tal. : Haveli, Dist. : Pune - 412 307, Maharashtra, India.

DECLARATION

I hereby declare that Vasantdada Sugar Institute (VSI), Pune has prepared the damage assessment report for M/s. Sahakar Maharshi Shivajirao Narayanrao Nagawade Sahakari Sakhar Karkhana Limited (SMSNNSSKL), Tal. Shrigonda, District Ahmednagar due to an accident of molasses tank burst on Feb. 10, 2022. This report is based on the ground water and soil samples collected from the accident affected area, a representative sample/s from non-affected areas and the field observations of the visiting team. Other information and data/photographs pertaining to the accident has been provided by the SMSNNSSKL. VSI has used all skills, knowledge, care and diligence within the terms, conditions & scope of the work order.

(Dr. Deepali Nimbalkar)
Sr. Scientist and Head
Department of Environmental Sciences

Date: August 10, 2023

CONTENT OF REPORT

LIST OF TABLES

LIST OF FIGURES

LIST OF ANNEXURES

Executive Summary

This final report comprised of first and the second phase data of the study. The first phase report of the study was submitted to the factory in February 2023. The second phase of the study encompasses ground water and soil monitoring data, its results and interpretation, geo-profile studies and geology, hydro-geology related observations, preventive measures recommendations, damage assessment and its monetization. For easier understanding and continuity of the subject, the first phase work is also included in this report. This is mainly to give background of the study and readily provide monitoring locations related data to the reader.

On the request of the factory, additional sampling was done at five dug well (ground water samples) and seven locations for soil. Those locations were not included in the first phase of the report. Hence, all monitored locations were re-described in the second phase along with images showing its location on Google-earth. Sampling locations were grouped into different zones. This zonation is mainly based on the proximity of the location to the accident site. Hence, ground water and soil sampling locations of zone and zone 2 are very important and they were located within 1km distance from the accident site.

Initially, molasses analysis was done to understand its pollution strength/potential. It was observed that the molasses has an acidic nature. Its pH is observed in the range of 4.7 to 5.7. Usually, molasses is observed rich in organic as well as inorganic material. Therefore, it showed relatively high chemical oxygen demand (COD average 63,000 mg/L) and biological oxygen demand (BOD – average – 23,000 mg/L). In addition, nitrogen, phosphorous and potassium (N, P, K) content along with chloride, sulphate and silica are observed/ reported to considerable extent.

In order to assess the environmental damage due to the accident,

- Ground water samples were collected and analysed from 18 locations during first phase and five more samples were added at later stages of the study. Thus, total 23 water samples were analysed
- Similarly, soil samples were collected and analysed initially from 18 locations and seven more samples were added at later stages of the study. Thus, total 25 soil samples were analysed
- Geo-profile study carried out at 30 locations

For ground water quality, in order to understand the contamination due to molasses and its percolation in the dug well near to the accident site – COD, BOD characteristics of water was considered a key parameter. In addition, pH, electrical conductivity (EC) of ground water, its hardness, TDS and concentration of major cations, anions are also considered while assessing the present status of the waterbody with respect to the accidental contamination of the same.

Results of ground water quality study showed pH in the range of 7.0 to 7.9 which is neutral to mild alkaline nature, except one sampling location - W 11 -where pH of 6.8 reported. Ground water samples from non-affected areas showed pH value ≥7.5. All collected samples were colourless. Its electrical conductivity ranged from 876 micro mho/cm to 6389 micro mho/cm. Highest conductivity reported for samples collected near river Ghod.

Usually, COD of unpolluted water is observed <20 mg/L. In the present study, out of 23 ground water samples, eight samples (all from affected areas) showed COD of <20 mg/L. But, in contrast the ground water sample from uncontaminated areas particularly sample W 16 and W 18 reported COD values of 48 mg/L and 176 mg/L respectively. COD value reported for W 18 is the highest for the study area. Since COD and BOD are interlinked parameters, a similar trend was observed for BOD parameter for the ground water samples of the study area. Considering an average COD value of analysed C-molasses samples of 63,000 mg/L, the COD values reported for the sampled ground water are considerably low as far as comparison is concerned. Analysis results of COD, BOD parameters clearly indicate that, the status of ground water of the study area is more or less clean to mildly polluted. It showed very minor or traces of pollution at few locations. This very mild pollution characteristics may be due to local contamination.

Hardness and TDS parameters of samples ground water considered important in order to assess its potable characteristics. Amongst these two parameters, TDS of sampled ground water observed in the ranges of 502 mg/L to 3742 mg/L. According to the IS 10500:2012 standard for drinking water, acceptable limit of TDS is 500 mg/L. Reports for the hardness characteristics show that its value ranged from 130 mg/L to 1270 mg/L. Acceptable limit of total hardness (as CaCO3) as per IS 10500:2012 is 200 mg/L. Only four samples out of 23, reported hardness $\leq$ 200 mg/L. Thus, ground water characteristics of the study area for TDS parameter observed exceeding the standard at all monitored locations but hardness observed within the standard only at four locations.

Overall, the ground water characteristics of the samples collected from accident contaminated/affected areas were observed to be similar to the non-affected/contaminated areas.

In case of soil analysis, pH characteristic is observed to be neutral (pH 7.25) to highly alkaline (pH 9.12). Available nitrogen and phosphorous levels for most of the samples of study area are observed in low to very low ranges. Whereas, the potassium level at many places is observed in high to very high levels. Soil organic carbon was also reported as moderately high to high values.

Overall, the soil analysis results show a similar trend as ground water analysis. It means, the impact due to accidental contamination of the resources (water and soil) is probably remediated naturally. The soil samples collected from accident contaminated/affected areas and non- affected areas show more or less similar characteristics. Therefore, the present status of soils of the study area show no traces of molasses

contamination as such. It may be due to the effective scrapping action taken by the factory management immediately after the accident. In this action, molasses from contaminated soil and other surfaces was scrapped with bagasse, removed mechanically and transferred to the compost yard of the distillery unit.

- **Geo-physical studies**

From the resistivity surveys, it is inferred that throughout the area from surface downwards up to depth of 25 meters the strata are highly weathered and conducive for water infiltration and therefore the infiltration of the molasses released during the accident may have contaminated the groundwater present in the area. This contamination might have occurred immediately after the accident. However, the samples of ground water collected during the study reveals almost negligible traces of pollutants in the collected samples. These pollutants may be due to local contamination.

- **Preventive measures**

This type of accident occurred a second time in the past nine years in the distillery unit. Therefore, a major preventive measure is to strictly adhere and follow Indian standard 5521: 2022 Steel tanks for storage of molasses- specification (second revision). This standard covers the requirements of materials, recommended volumes and dimensions, method of construction, and testing of mild steel tanks for storage of molasses in sugar factories. It is advised to appoint a Competent Auditor for this purpose and confirm the compliance of standard.

- **Damage Assessment and Monetization**

In the present study, a shadow pricing mechanism was used to determine the damage cost. In this method, the estimation of the distance function enables us to obtain the shadow price of the undesirable outputs. This method is originally described in a research paper published by F. Hernández-Sancho et al. (2010). In their study, researchers considered nitrogen, phosphorous, suspended solids, BOD and COD as undesired output of sewage treatment plants. This is mainly because the cost involved in removing these undesirable components is considerable in order to reuse the sewage. Hence, they considered the cost as an environmental benefit cost and interpreted the results.

However, in the present case, ground water and soil is affected due to accidental release of the molasses. Strength of liquid pollutants is usually measured in BOD and COD. While estimating COD, the demand of oxygen for oxidation of inorganics gets covered. Therefore, in the present study estimating cost for the inorganic may lead to duplication of the cost for the same pollution. In other words, the damage cost due to inorganic also gets covered through COD value. Therefore, COD and BOD are considered as important parameters for damage cost estimation.

The damage assessment and preventive/mitigation measures cost is as follows.

Table 1: Cost of damage and its preventive measures

Particular	Details	Cost/provision (Rs)
Damage Cost	Cost of damage due to accidental discharge of molasses into the ground water of nearby areas	36,97,624.00
	Cost of damage due to accidental discharge of molasses into the soils of nearby areas	36,97,624.00
	Cost of damage to flora/trees due to accidental discharge of molasses	2,08,750.00
Preventive measures provision	Provision for implementation of preventive and mitigation measures	75,00,000.00
Remedial or Mitigation measures (additional) through CER	Provision for implementation of CER activities	51,00,000.00
	TOTAL	**2,02,03,998.00**
	Rupees two crores two lakhs three thousand nine hundred ninety eight	

Damage Assessment Report: Phase I

1.0 Introduction

M/s. Sahakar Maharshi Shivajirao Narayanrao Nagawade Sahakari Sakhar Karkhana Limited (SMSNNSSKL), Tal. Shrigonda, Dist. Ahmednagar is a one of the progressive and leading sugar factories of Ahmednagar district of Maharashtra. It was established in the year 1965 and has registration No.: ANR/PRG (A)/1-dated 03.08.1965. The factory achieved significant development under the leadership of Late Mr. Shivajirao Nagawade. Now, it is growing under the leadership of Chairman Mr. Rajendra S. Nagawade. Gradually, the sugar unit expanded and the factory established a 30 KLPD distillery unit in 1986. In the year 2021 the factory started a 26 MW cogeneration unit. Presently the cane crushing capacity of the sugar unit is 4,800 TCD, Cogeneration unit is 26 MW and distillery unit is operated at 30 Kilo litre per day (KLPD) capacity.

1.1 Geographical location of the factory

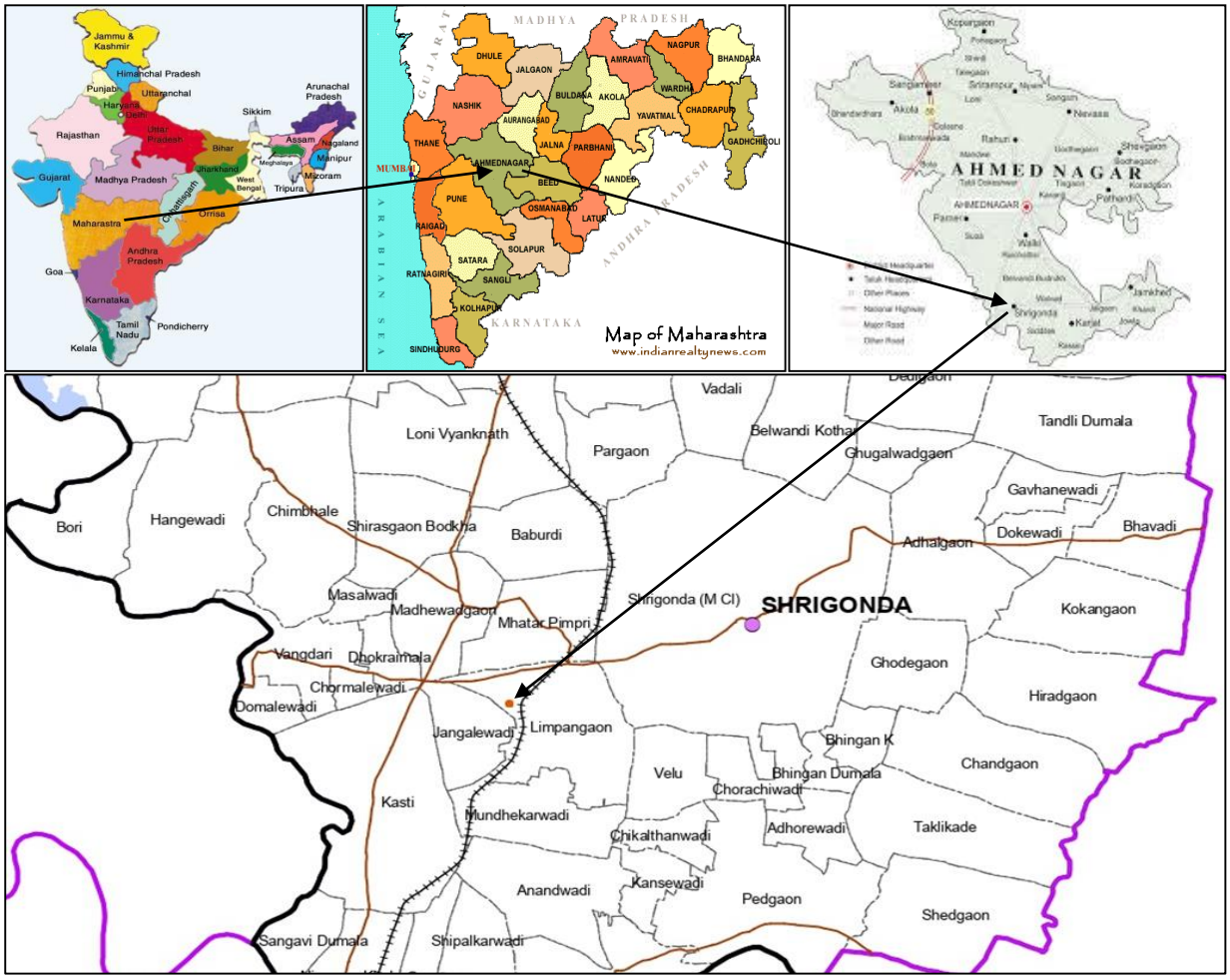


Figure 1.1: Site location map

The site is located at Plot number 52/2 village Limpangaon of Shrigonda taluka of Ahmednagar district, Maharashtra.

Geographical coordinates of the industrial unit are –

1. 18°35'31.71"N, 74°37'0.86"E
2. 18°35'20.94"N, 74°37'28.02"E
3. 18°35'2.82"N, 74°37'19.10"E
4. 18°35'18.38"N, 74°36'56.07"E

1.2 Access

Taluka headquarter and town Shrigonda is approx. 8.5 km from the factory site. The unit is approx. 0.5 km from Shrigonda- Nhavare State highway and approx. 2.3 km from NH 160 i.e. Kurkumbh-Ahmednagar road. Nearest railway station is Shrigonda which is approx. 2.5 km from the project site. It is on the Daund-Manmad route. Pune and Shirdi airport are near to the site. They are at approx. 75 and 120 km aerial distance from the site.

1.3 Raw material and finished product storage details

Table 1.1: Raw material and finished product storage details

Storage details	Capacity
Molasses storage tank M1	4500 MT (02 Nos.)
Molasses storage tank M2	4500 MT (01 Nos.)
Rectified Spirit Storage Tank - 1	6,77,934 BL
Rectified Spirit Storage Tank - 2	6,83,944 BL
Rectified Spirit Storage Tank - 3	6,53,777 BL
Rectified Spirit Storage Tank - 4	95,807 BL
ENA Storage Tank-1	96,000 BL
ENA Storage Tank- 2	96,000 BL

*All tanks are provided with Recirculation and water cooling system.

1.4 Environmental Conditions

M/s. Sahakar Maharshi Shivajirao Narayanrao Nagawade Sahakari Sakhar Karkhana Limited (SMSNNSKL) is located in village Limpangaon, taluka Shrigonda, district Ahmednagar.

The distillery unit of the factory is located towards the south of the industrial plot. Satellite image shows that there are spent wash storage lagoons and compost yard is located towards east of the unit. Towards south, there are agricultural plots located in the immediate surrounding and a tiny settlement at approx. 100 m from the site. In the west, there is a small natural drainage (nalla) and a fallow land plot with scrub vegetation. Few agricultural plots observed after the fallow land. Towards north, sugar unit of the factory is observed in the immediate surrounding area.

The plots in the immediate surrounding of the site are presently under agricultural land use. There is a residential area at an approx. 500 m towards NW of the site. An artificial small-scale reservoir is located

towards the West direction within the project boundary. Nearest Village Jangalewadi is located towards SW of the site at approx 1.5 km. Ghod Left Canal is adjacent to the factory in the West direction. River Ghod ~6.2 km from the site flows from West of village Jangalewadi. In addition to these few Wells are within 1 km radius of the site.

1.5 Climatic conditions

Gradual increase in maximum temperature of the taluka observed from the month of February of 2022. Max temperature of +40°C was recorded in the months of April and May. Sharp decrease in the maximum temperature observed after onset of monsoon.

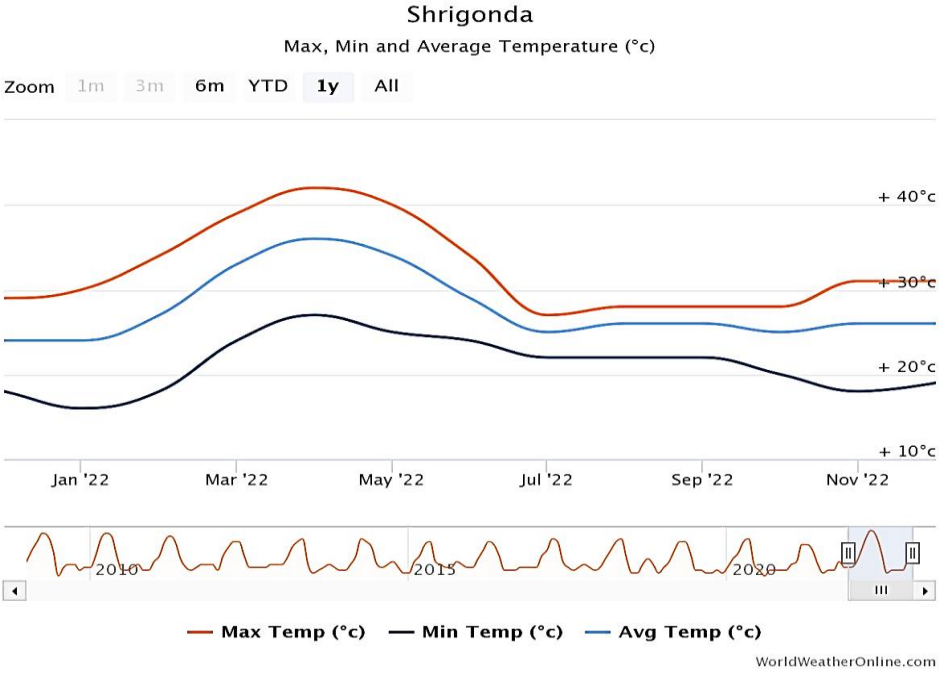


Fig. 1.2: Maximum, Minimum and Average temperature of Shrigonda taluka (year 2022)

The maximum humidity of taluka ranges between 70-80% in the month of June to September. Humidity ranges around 40 % in the month of January. It decreases further upto April, observed around 20-25%.

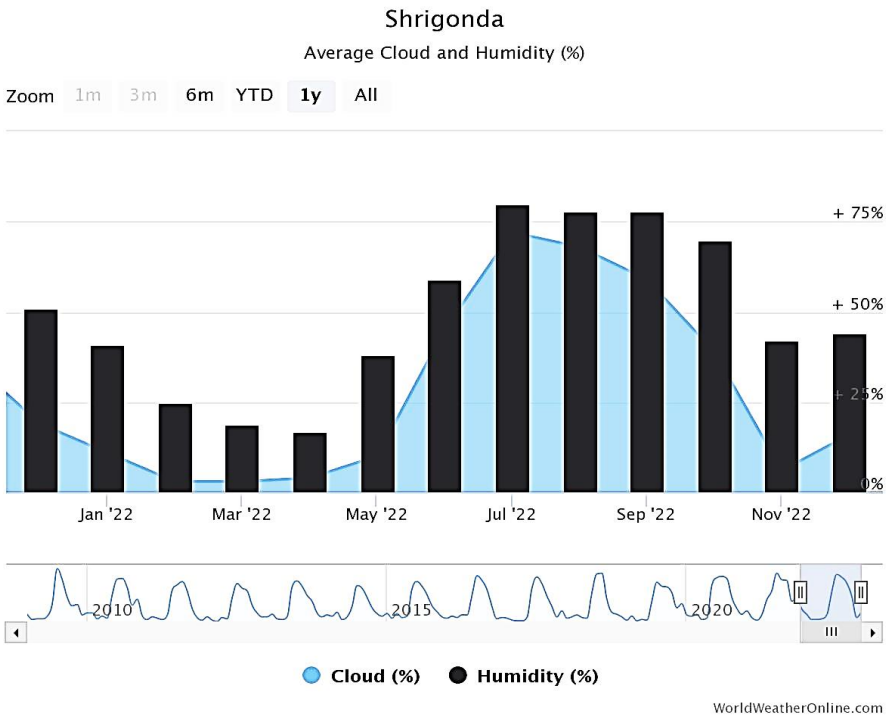


Fig. 1.3: Average humidity of Shrigonda taluka

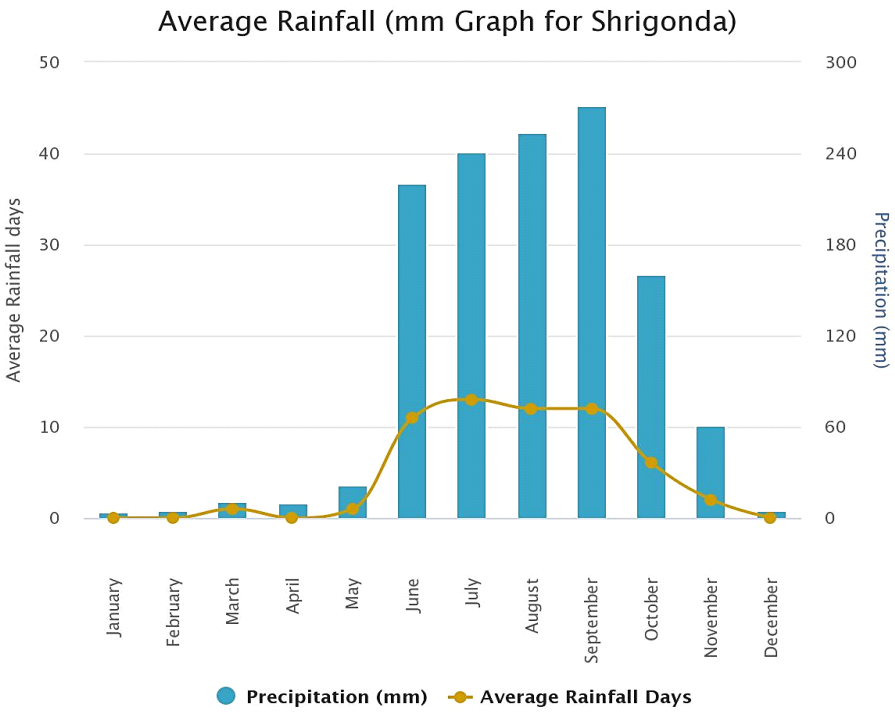


Fig. 1.4: Average rainfall of Shrigonda taluka (year 2022)

Source: worldweatheronline.com

2.0 Background of damage assessment work

On 10th Feb 2022, one of the molasses tanks of 4500 MT capacity located in the distillery unit burst at 06.45 am. Due to this, the stored molasses flowed out of the factory premises and found its way through nearby natural drainage. The factory management took immediate action to control and remove the molasses from outside premises. In the control action, the management took the following steps.

- Stopped the flow of molasses in the natural drainage (*nalla*) by constructing temporary bunds
- Deployed tankers to collect the molasses from the *nalla*
- Used vehicle mount diesel engine pumps to collect the molasses in tankers
- Brought the tankers to the factory premises and stored the molasses from tankers into spent wash storage constructed lagoons of distillery unit
- Used scrapping material such as bagasse to prevent spread of molasses in the surrounding field
- Collected the scrapped bagasse and brought it to the compost yard of the distillery unit
- Used the scrapped material for composting activity
- The management could able to control and restrict the flow of molasses within 800 m (aerial distance) from the distillery premises
- Prevented the spread molasses in the surrounding agricultural and/or open land to maximum extent
- Closed the distillery operations till the action of molasses removal from the natural environment gets completed.

Figure 2.1: The place (tank location) of accident

Figure 2.2: Photographs of the damaged area

- **Immediate control measures implemented by the factory management after the incident:**

Figure 2.3: Removal of contaminated soil

Figure 2.4: Construction of temporary bunds on natural drain to restrict the flow of molasses

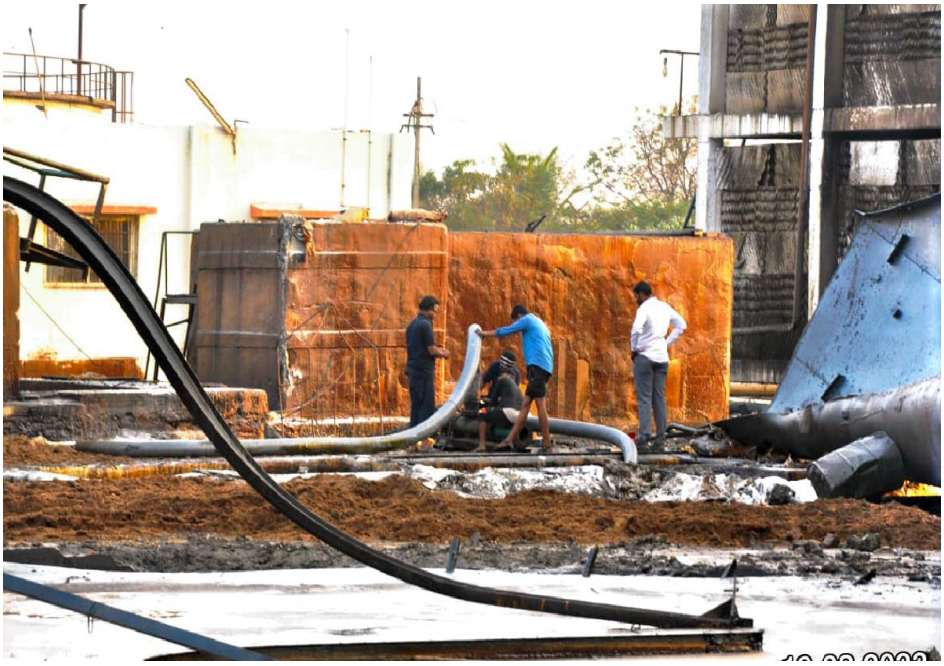


Figure 2.5: Used vehicle mount diesel engine pumps to collect the left over molasses in tankers

Immediately, the factory management reported the accident to regulatory authorities such as Maharashtra State Pollution Control Board. The board officials visited the site on the same day i.e. Feb 10, 2022 and prepared the onsite observation report. Copy of the same is enclosed as annexure I.

2.1 Summary of the MPCB-FO visit report

As per instruction SRO, Ahmednagar visit paid to industry regarding blast of molasses tank incident happened in industry premises. During visit following observations are made as below

- During the visit it is observed that, blast of molasses tank (No.-1) M-1 incident happened in the molasses storage area.
- Industry representative informed that, said incident happened at 6.45 AM on 10/02/2022
- Due to said incident molasses has spread in premises (i.e. near ETP area, CPU area) & it has also flowed into the nearby *nalla* and it has flown till approx. 1.0 Km in the said *nalla*. Same *nalla* blocked using black cotton soil.
- Due to said incident molasses flown into nalla, due to which It has also spread in nearby farmlands
- Industry representatives informed that they have stored approx. 4102.800 MT molasses in molasses storage tank no.-1 (M-1) same is spread in premises and nearby *nalla*
- Industry representatives informed that they have stored approx. 3034.710 MT in molasses tank No. 2 (M-II) & approx. 4072.380 MT molasses in tank No. 3 (M-III)
- Due to this incident the wall near ETP was damaged

Remarks (By MPCB):

- Instructed industry to submit action taken report on top priority
- Industry shall remove all molasses from nearby *nalla* on top priority
- Instructed industry to submit the molasses storage arrangement details on top priority in MPCB office
- Industry shall carry out safety audit of molasses storage tank No. 2 & 3
- Industry representative informed that this accident happened due to spontaneous combustion in tank No.-1 (M-I)

Later, due to NGT Application No. 85/2022 (WZ) and Caveat No. 12/2022, the state pollution control board gave directives to the factory to prepare a damage assessment report. Hence, the factory management approached Vasantdada Sugar Institute (VSI), Pune to prepare damage assessment work. VSI is NABET accredited Environment Impact Assessment (EIA) consultant providing its services to the sugar industry for more than two decades.

Scope of phase 1

1) Detailed survey of the accident affected/damaged site and identification of locations for collection of water and soil samples
2) Geo-referencing of locations identified for water/soil sample collection

This was mainly to identify the core and buffer area of the accident. It should get clearly demarcated on the map/satellite image. On the basis of this data, a number of samples for water, soil and geological/hydrogeological investigations would get finalized.

On Dec. 02, 2022 a project team comprised of following members visited the site and collected site specific information and data.

Table 2.1: Details of experts involved in damage assessment work

#	Name	Expertise
1)	Dr. Nitin Karmalkar	Geology and geophysical surveys
2)	Dr. Amol Deshmane	Ecology and Biodiversity, Impact assessment
3)	Dr. R.A. Duraiswami	Hydrogeology and water quality assessment, Remote sensing and GIS applications
4)	Dr. Vivek Patil	Environment Sciences, Impact assessment
5)	Ms. Priyanka Kad	Land Use Land cover studies using remote sensing, GIS

3.0 Findings of First phase study

Based on the visit and collected data, an area affected due to molasses spread was demarcated on satellite image.

Figure 3.1: Image showing spillage of molasses inside factory premises

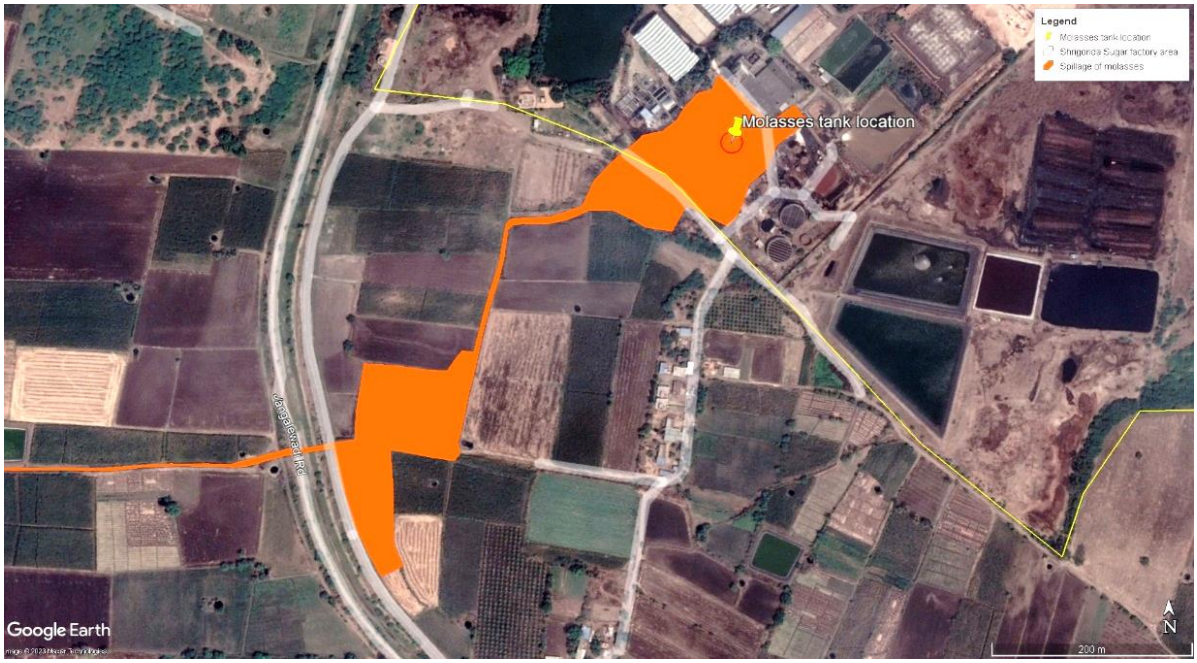


Figure 3.2: Image showing spillage of molasses outside factory premises

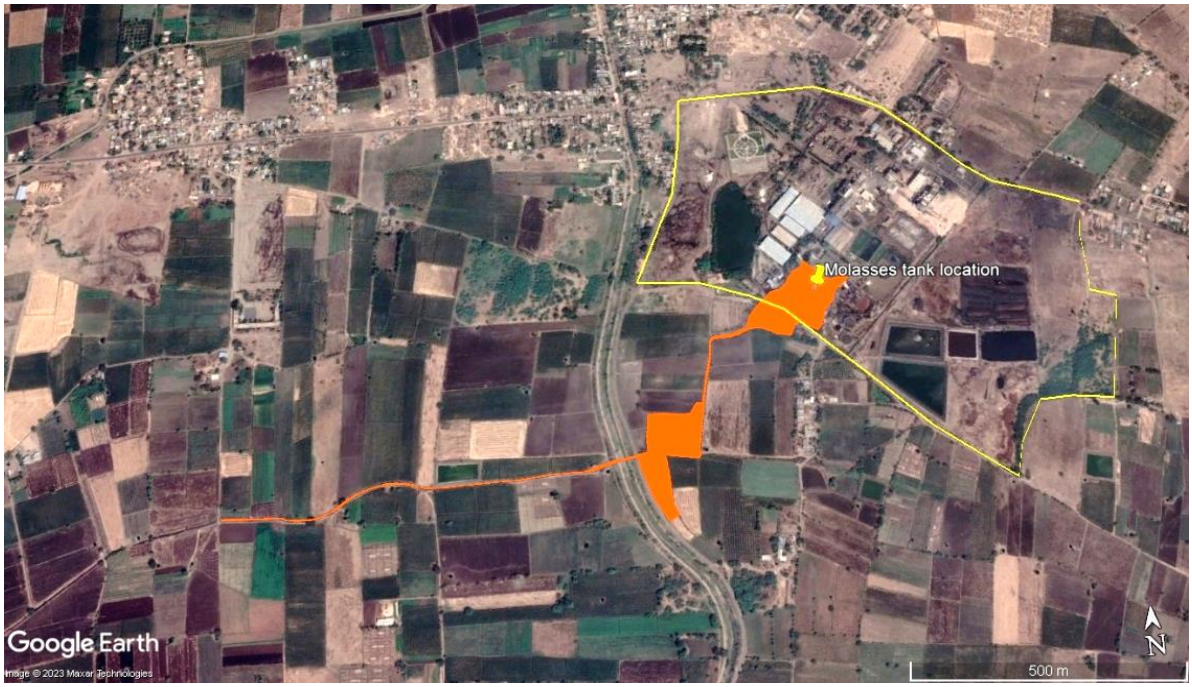


Figure 3.3: Google earth image showing spillage of molasses in the nearby area

(In these images orange colour used to show the spread of molasses and its flow in the natural drainage)

Also, soil and water sample collection locations were determined. These locations are covered in figure 3.5 and 3.6. While selecting the locations, highly, moderately and low affected areas as well as non-affected areas were considered to get the broader picture. Water and soil samples for the mentioned location was collected on Feb 06 and 07, 2023.

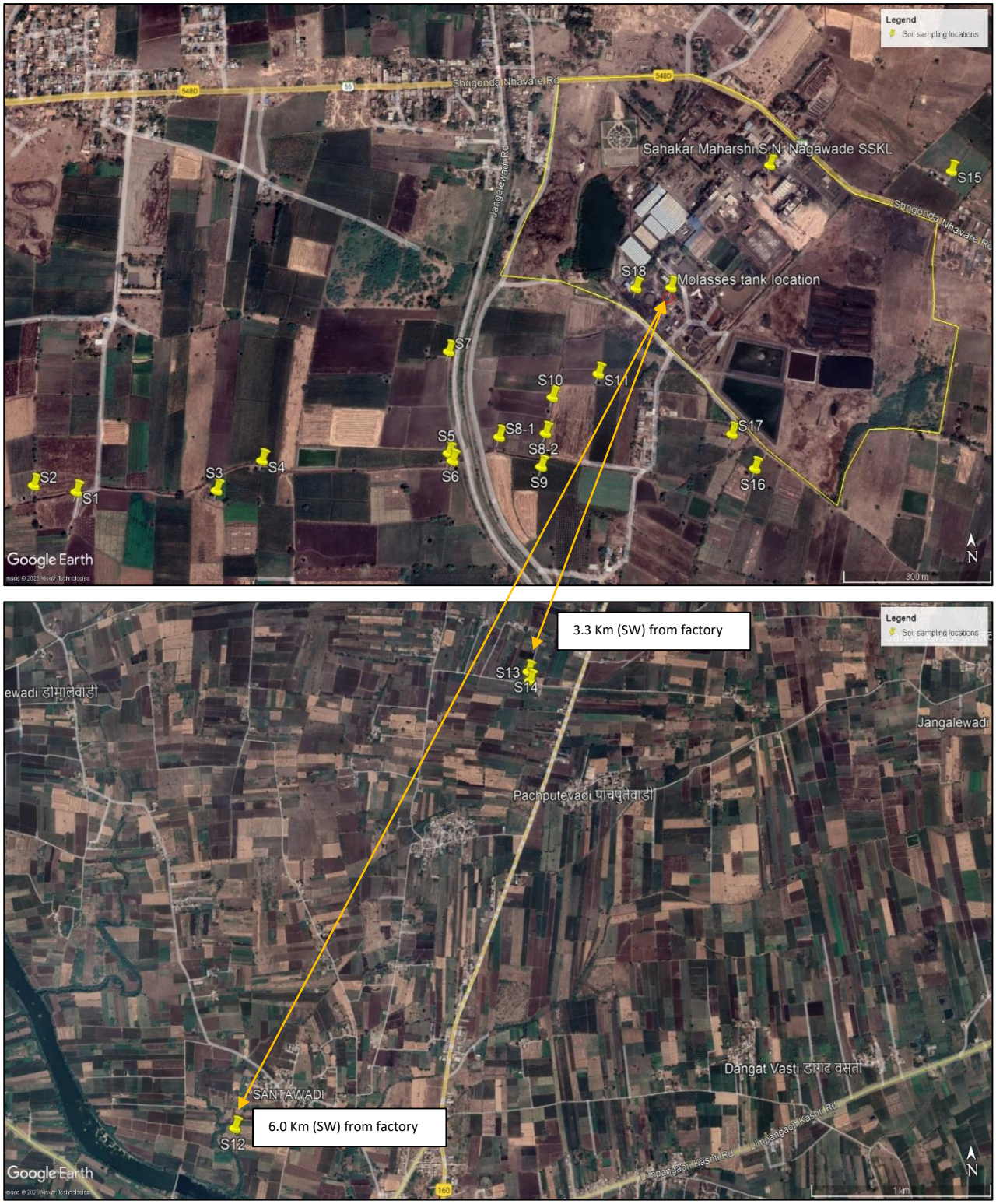


Figure 3.4: Soil sampling location map

Table 3.1: Soil Sampling locations with geographical coordinates

#	Sample	Geographical location	Location specification	Remark
1.	**Soil Sample 1**	18°35'4.61"N, 74°36'25.67"E	Farm of Mr. Pappu Jangale	low affected area
2.	**Soil Sample 2**	18°35'5.10"N, 74°36'22.67"E	Farm of Mr. Bhaskar Jangale	low affected area
3.	**Soil Sample 3**	18°35'4.41"N, 74°36'35.47"E	Farm of Mr. Ganesh Gund	moderately affected
4.	**Soil Sample 4**	18°35'6.19"N, 74°36'38.63"E	Farm of Mr. Dyaneshwar Gund	moderately affected
5.	**Soil Sample 5**	18°35'6.26"N, 74°36'51.75"E	Farm of Mr. Tukaram Gund	moderately affected
6.	**Soil Sample 6**	18°35'5.78"N, 74°36'52.01"E	Farm of Mr. Tukaram Gund	moderately affected
7.	**Soil Sample 7**	18°35'12.77"N, 74°36'51.93"E	Farm of Mr. Parshuram Gund	moderately affected
8.	**Soil Sample 8-1**	18°35'7.19"N, 74°36'55.34"E	Farm of Mr. Lokesh Rode	highly affected area
9.	**Soil Sample 8-2**	18°35'7.33"N, 74°36'58.62"E	Farm of Mr. Lokesh Rode	highly affected area
10.	**Soil Sample 9**	18°35'5.22"N, 74°36'58.23"E	Farm of Mr. Dyaneshwar Rode	highly affected area
11.	**Soil Sample 10**	18°35'9.61"N, 74°36'59.21"E	Farm of Mr. Madhukar Gund	highly affected area
12.	**Soil Sample 11**	18°35'11.01"N, 74°37'2.54"E	Farm of Mr. Rangnath Gund	highly affected area
13.	**Soil Sample 12**	18°33'20.37"N, 74°34'22.64"E	Farm of Mr. Kokate	non affected area
14.	**Soil Sample 13**	18°34'34.88"N, 74°35'21.32"E	Farm of Mr. Kondiba Rahinj	non affected area
15.	**Soil Sample 14**	18°34'36.46"N, 74°35'21.02"E	Farm of Mrs. Anjana Gawade	non affected area
16.	**Soil Sample 15**	18°35'23.76"N, 74°37'29.17"E	Farm of Mr. Madhukar Kalane	non affected area
17.	**Soil Sample 16**	18°35'4.66"N, 74°37'13.22"E	Farm of Mr. Baban Dhage	non affected area
18.	**Soil Sample 17**	18°35'6.89"N, 74°37'11.77"E	Farm of Mrs. Rukhmini Dhage	non affected area
19.	**Soil Sample 18**	18°35'16.56"N, 74°37'5.53"E	Near molasses storage tank	highly affected area

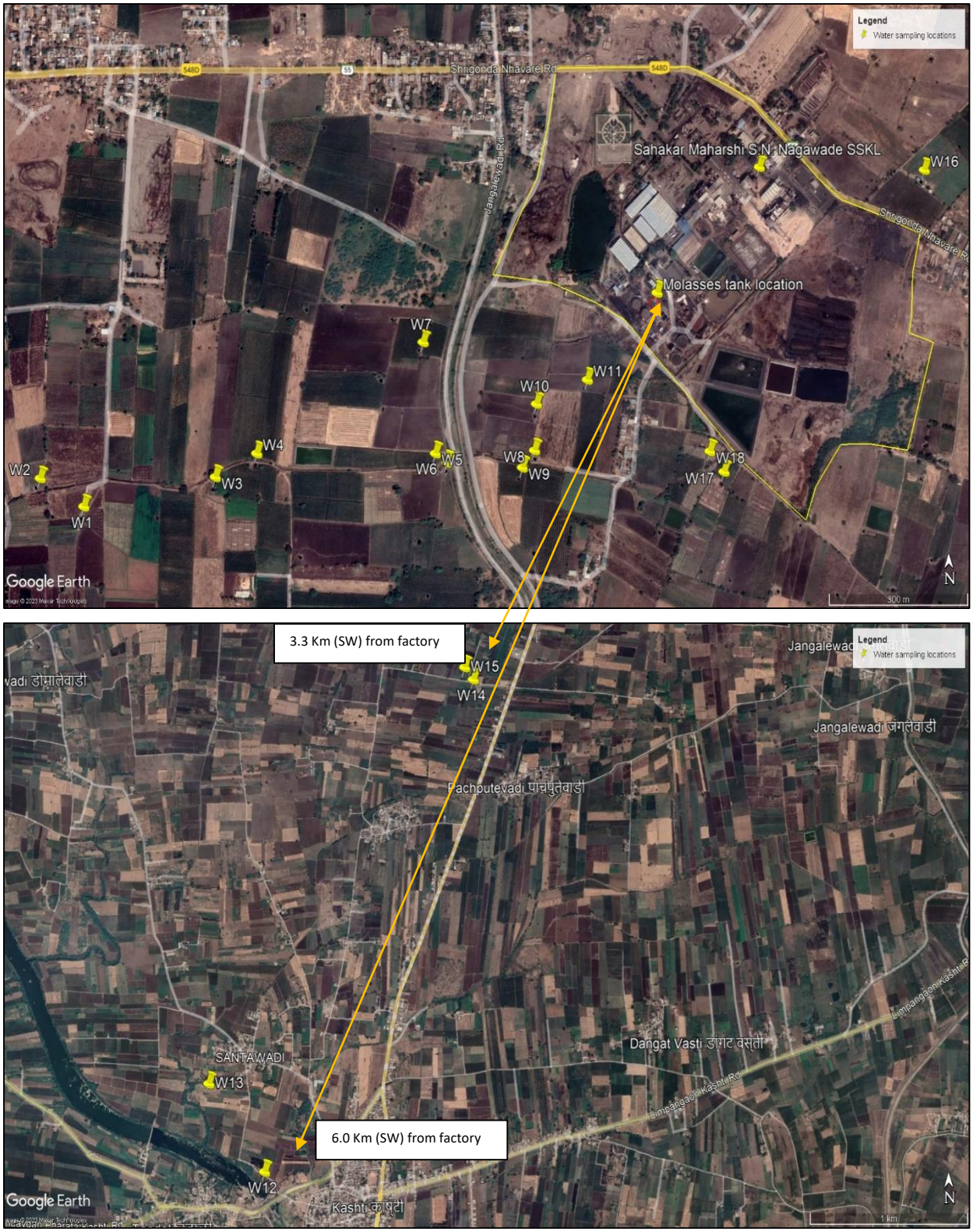


Figure 3.5: Water sampling location map

Table 3.2: Water Sampling locations with geographical coordinates

#	Sample	Geographical location	Location specification	Remark
1.	**Well water 1**	18°35'3.14"N, 74°36'25.58"E	Well of Mr. Pappu Jangale	Low to moderately affected area
2.	**Well water 2**	18°35'4.91"N, 74°36'22.31"E	Well of Mr. Bhaskar Jangale	Low to moderately affected area
3.	**Well water 3**	18°35'4.96"N, 74°36'35.29"E	Well of Mr. Ganesh Gund	moderately affected
4.	**Well water 4**	18°35'6.43"N, 74°36'38.30"E	Well of Mr. Dyaneshwar Gund	moderately affected
5.	**Well water 5**	18°35'6.40"N, 74°36'51.53"E	Well of Mr. Tukaram Gund	moderately affected
6.	**Well water 6**	18°35'5.83"N, 74°36'52.37"E	Well of Mr. Tukaram Gund	moderately affected
7.	**Well water 7**	18°35'13.42"N, 74°36'50.61"E	Well of Mr. Parshuram Gund	moderately affected
8.	**Well water 8**	18°35'6.57"N, 74°36'58.86"E	Well of Mr. Lokesh Rode	highly affected area
9.	**Well water 9**	18°35'5.50"N, 74°36'57.96"E	Well of Mr. Dyaneshwar Rode	highly affected area
10.	**Well water 10**	18°35'9.49"N, 74°36'59.02"E	Well of Mr. Madhukar Gund	highly affected area
11.	**Well water 11**	18°35'11.01"N, 74°37'2.81"E	Well of Mr. Rangnath Gund	highly affected area
12.	**Well water 12**	18°33'4.49"N, 74°34'35.83"E	Well Near Ghod River - Kashti	non affected area
13.	**Well water 13**	18°33'20.80"N, 74°34'23.99"E	Well Near Natural drain (Mr. Kokate)	non affected area
14.	**Well water 14**	18°34'34.68"N, 74°35'21.90"E	Well of Mr. Kondiba Rahinj	non affected area
15.	**Well water 15**	18°34'36.97"N, 74°35'20.05"E	Well of Mrs. Anjana Gawade	non affected area
16.	**Well water 16**	18°35'24.36"N, 74°37'28.24"E	Well of Mr. Madhukar Kalane	non affected area
17.	**Well water 17**	18°35'5.19"N, 74°37'12.86"E	Well of Mr. Baban Dhage	non affected by molasses/but low laying to spent wash storage tanks area
18.	**Well water 18**	18°35'6.48"N, 74°37'11.84"E	Well of Mrs. Rukhmini Dhage	

Damage Assessment (Phase 2 i.e. final report)

- **Brief about the study of phase two of damage assessment**

As discussed in the introductory part of the report (Phase 1, page 5) that damage was caused due to accidental release of molasses (C-heavy type) outside the factory premises of M/s. Sahakar Maharshi Shivajirao Narayanrao Nagawade Sahakari Sakhar Karkhana Limited, Shrigonda assessed in this study. **According to the letter from Maharashtra Pollution Control Board (MPCB – letter ref. MPCB/RONK/ID/221017001/2022 dated Oct. 17th 2022 – enclosed as annexure 2), it directed the factory to –**

1) carryout assessment of contamination and

2) Estimate cost of remediation and damage assessment

- **The Study Process**

In this context, ground water and soil samples were collected to assess contamination of pollutant. Results and interpretation of the same are covered in detail in this part of the report. Estimation of remediation cost is also dependent on this study. Damage assessment part of the report is based on 'Framework for Environmental Damages Cost Assessment' – Special report on monetizing damages - published by National Environmental Engineering Research Institute (NEERI – Year 2019). This report by NEERI used as a basic guideline to describe the damages due to the accident, understanding its impact and monetizing the damage. Schematic of the process is given in figure 1.1.

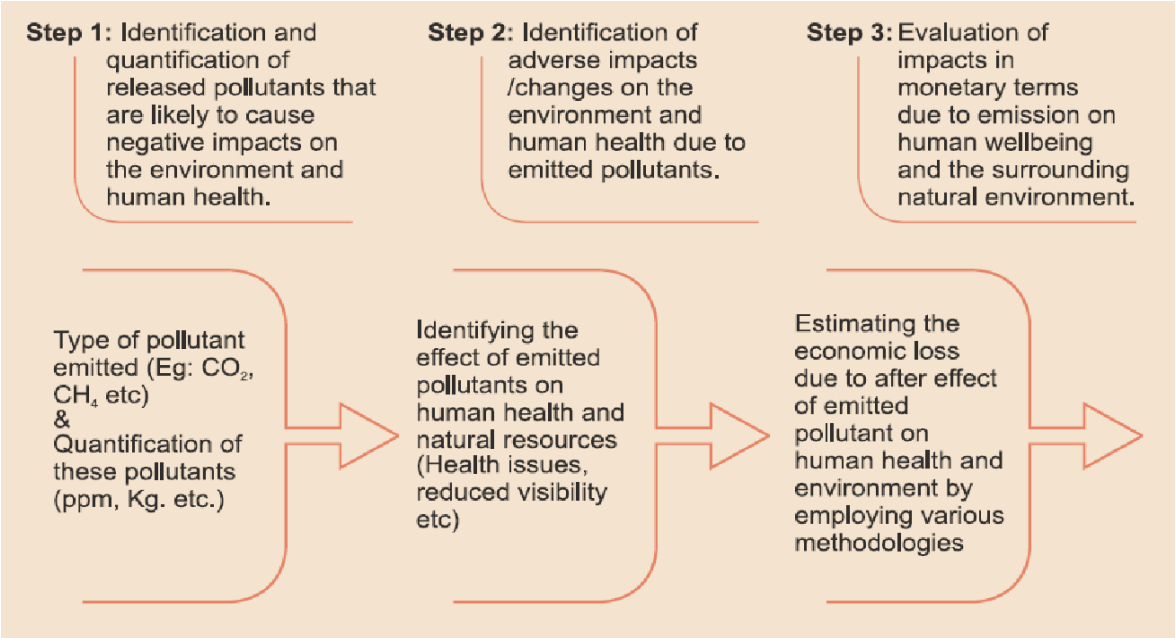


Figure 1.1: Schematic of damage assessment process used for this study

Source: 'Framework for Environmental Damages Cost Assessment' – Special report on monetizing damages - published by National Environmental Engineering Research Institute (NEERI – Year 2019)

1.0 Identification of pollutant/s type, its source, quantity and characteristics

Therefore, while assessing the damage, the nature of the pollutant is described in the first part. It includes pollutant type, its source, quantity and characteristics.

Type of pollutant	C-heavy type molasses
Source	It is generated from sugar manufacturing process - from sugar cane
Quantity	Approx. 4,000 tons of molasses (C heavy type)

Further, molasses characteristics were determined by analyzing the samples in the lab and through available research papers. The findings of the same are as follows.

Table 1.1: General characteristics of C-heavy molasses as a raw material for fermentation unit

Particulars	Test values
pH of molasses	4.20-4.50
Brix	86.00-90.00
Moisture content (%)	15.00-21.50
Total suspended solids (%)	3.50-7.00
Total dissolved solids (%)	72.00-82.00
Total reducing sugars (%) by mass	42.00-52.00
Total fermentable sugars (%) by mass	40.00-48.00
Fermentable/Non fermentable ratio (F/N)	1.50-2.00
Calcium content (gms/1000 brix)	1.80-2.75
Ash (Molasses) in %	**7 to 10**
Carbonated ash (%)	8.00-12.00
Sulphated ash (%)	11.00-15.00
Nitrogen (% of molasses)	0.700-1.200
Potassium (% of ash)	15.00-16.50
Sodium (% of ash)	0.90-0.95
Chlorides (% of ash)	13.00-14.00
Phosphates (% of ash)	0.25-0.35
Total organic volatile acids (mg/lit.)	2500-7000
Non-sugar organic compounds*	20 to 25

*includes nitrogenous substances, cane wax, vitamins, etc.

Reference: NATIONAL SUGAR INSTITUTE, KANPUR (Presentation by Dr. Seema Paroha of NSI)

Table 1.2: Characteristics of C-heavy molasses - Analysed considering water pollutant/contaminant)

#	Parameter	Test value*	Unit
1	pH at 25°C	4.7 to 5.7	---
2.	Colour	Dark brown	
2	Electrical Conductivity@25°C	359 -1586	µmhos/cm
3	Chemical oxygen demand	54,000-69,000	mg/l
4	BOD at 27° C for 3 days	14,998 -24,998	mg/l
5	Total Suspended Solids	2,896 -3,968	mg/l
6	Sulphate as SO4	20,875 - 41,250	mg/l
7	Chlorides as cl	13,995.6 – 18,994	mg/l
8	Acidity	60,000-75,000	mg/l
9	Silica (Colloidal)	4,901.1 – 5,882	mg/l
10	Phosphorous (P)	230.39 to 235.29	mg/l
11	Potassium (K)	27,843 -30,539	mg/l
12	Sodium (Na)	7,389.16–20,295.57	mg/l
13	Total Dissolved Solids	65,940 – 72,426	mg/l
14	Nitrogen (TKN)	7,560 – 8,960	mg/l
15	Nitrate	BDL	
16	Calcium as Ca	8,016 -16,032	mg/l
17	Magnesium as Mg	4,609.22- 4,613.11	mg/l
18	Copper as Cu	BDL	mg/l
19	Iron as Fe	4.639 – 5.360	mg/l
20	Chromium (Cr) Total	BDL	mg/l
21	Nickel (Ni)	BDL	mg/l
22	Zinc (Zn)	BDL	mg/l
23	Manganese as Mn	BDL	mg/l
24	Lead as Pb	BDL	mg/l
25	Cadmium as Cd	BDL	mg/l
26	Volatile Acids	491.4 – 510.3	mg/l
***average of three samples**			

BDL = Below detection limit;

BDL value of Pb, Cd Cr, Mn, Zn, Ni and Cu = 1 mg/L

1.1 Characterization of pollutant i.e. molasses

pH of molasses: Molasses (C-Heavy type) analysis report presented in table 1.2, indicates that it is acidic in nature (ranging between 4.7 to 5.7). Similar type of observation was reported by Kassa (2019) - who reported pH of 5.05 of molasses. In present study, molasses got discharged in a large volume and its entrainment was observed in nearby dug wells. This might have caused a change in the pH of water from neutral to acidic. Acidic pH might have caused damage to aquatic life. **Because, baseline data i.e. test reports of accident affected dug wells (after the accident) is not available, specific comment related to impact is assumptive.**

After pH, the second important pollution parameter is colour. Molasses has a very dark brown colour. Therefore, when molasses entered nearby dug wells, the colour of the receiving waterbody might have become brown or dark in colour. In such a situation light penetration into the waterbody gets drastically reduced. It also affects the exchange of oxygen between water bodies and the atmosphere. Thus, depletion of dissolved oxygen (DO) of water observed in such circumstances.

Temperature is also one of the important parameters for molasses. Usually the temperature of the molasses storage tank is maintained between 30 ^{o}C to 34 ^{o}C i.e. below 35 ^{o}C. But, a temperature of even 34^{o}C is warmer for well water which is usually observed around 27^{o}C. This is another reason for DO depletion. Organic as well as inorganic content of molasses is another major factor for DO depletion

Chemical oxygen demand (COD) and Bio-chemical Oxygen Demand (BOD):

The COD value of C-heavy molasses is in the range of 54,000 to 69,000 mg/L. BOD value of the analysed molasses sample was observed in the range of 14,998 mg/L to 24,998 mg/L. This COD/BOD value is considerably high and thus has the potential to cause damage to receiving water bodies. Considering the same the molasses (pollutant) entered into the water bodies (dug wells) had a very high pollution potential. According to the standards set by the Central Pollution Control Board (CPCB) for discharge of effluent/wastewater into any of the water body, BOD should be < 30 mg/L (Reference https://cpcb.nic.in).

Reference: Kassa, Y. Application of cane molasses as concrete retarder admixture. *SN Appl. Sci.* **1**, 1547 (2019). https://doi.org/10.1007/s42452-019-1608-8

2.0 Identification of adverse impacts or change in the environment or impact on human health due to emitted pollutants

This part presumably overlapped with assessment of contamination. Because, the data required for both is same - that is groundwater and soil analysis report. Hence, this part of the report will discuss monitoring and analysis of ground water and soil. Changes in the environment due to the pollutant is discussed in the later half.

2.1 Water and Soil sample collection, analysis results and data interpretation

For this study, a laboratory team of Department of Environmental Sciences of Vasantdada Sugar Institute (VSI) was involved in the sample collection and analysis. The laboratory of the Department of Environmental Sciences is accredited for many parameters of water, wastewater, soil, sludge, solid waste, ambient air, stack gas analysis by National Accreditation Board for Calibration and Testing Laboratories (NABL – accreditation certificate and approved scope is enclosed as annexure VI). This team visited the site on Feb 05 and 06, 2023 and March 16, 2023 to collect the ground water and soil samples from the study area. These samples were collected as per the sample collection procedures of the laboratory. Procedure for water sample collection is prepared based on the guidelines by the Central Pollution Control Board (CPCB). Procedure for soil sampling is developed based on the best practices followed at national and international levels. These samples were brought to the laboratory and analysed by experienced staff. For the analysis of collected groundwater samples, standard methods prescribed by American Public Health Association (APHA) and Bureau of Indian Standard (BIS) were mainly followed. Most of the parameters are under the NABL accreditation scope of the laboratory. In case of soil samples, BIS and Fertilizer Control Order (FCO) methods were used.
(Guidelines for water quality monitoring by Central Pollution Control Board MINARS/27/2007-08)

2.2 Molasses analysis results and its interpretation

In case of any water pollutant or wastewater its pollution strength is mainly assessed based on its chemical oxygen demand (COD)/biological oxygen demand (BOD) values. COD is often used as a measurement of pollutants in water, wastewater and aqueous hazardous wastes. COD is a measure of the oxygen equivalent of the organic matter in a water sample that is susceptible to oxidation by a strong chemical oxidant. COD is widely used as a measure of the susceptibility to oxidation of the organic and inorganic materials present in water bodies. The COD test of natural water yields the total quantity of oxygen that is required for oxidation of a waste to carbon dioxide and water (McCutcheon et al. 1993). In a BOD test, only biologically reactive carbon is oxidized while in a COD test, all organic matter is converted to carbon dioxide. The COD concentrations observed in surface water resources typically range from 20 mg/L or less in unpolluted

waters to greater than 200 mg/L in waters receiving effluents. Industrial wastewaters may have COD ranging from 100 mg/L to 60,000 mg/L (Chapman 1992).

In addition, other parameters such as pH, electrical conductivity, total dissolved solids are also important in determining the pollution strength of a liquid waste. These parameters were checked and results of the same are discussed here sequentially.

Hardness and Total Dissolved Solids (TDS): Hardness of water indicates the amount of calcium and magnesium dissolved in it. Water hardness is the total calcium and magnesium ion concentration in a water sample and is expressed or reported as mg/l as CaCO3 equivalent (i.e. concentration of calcium carbonate). Dissolved calcium (Ca++) and magnesium (Mg++) are the only two divalent cations found at appreciable levels in most waters. In natural water, both calcium and magnesium primarily exist bound to bicarbonate, sulfate or chloride. Total dissolved solids or TDS is the amount of dissolved ions, including salts, minerals and metals, in a water source.

These two parameters are broadly indicating the characteristics of ground water particularly for drinking and domestic purposes. IS 10500; 2012 prescribes acceptable limit of hardness as 200 mg/L and total dissolved solids this limit is at 500 mg/L.

Reference: McCutcheon, S.C., Martin, J.L, and Bamwell, T.O. (1993). Water Quality. In Handbook of Hydrology, Edited by D.R. Maidment. McGraw-Hill Inc., New York.
Chapman, D. (Editor) (1992). Water Quality Assessments. Published E & FN Spon on behalf of UNESCO, WHO and UNEP. London.

2.3 Physiographic setting

The Sugar Factory is to the northeast of village Janglewadi and is included in Survey of India Toposheet 47J/10 and extends in quadrants A3, B2, and B3 (Fig. 2.1). The sugar Factory is located at an elevation 543 m AMSL on the water divide separating the Pimpri Nala and the Gade Odha. The sugar factory is drained by 1st order streams, NE of Janglewadi. The stream between the Pimpri Nala and the Gade Odha is unnamed on Survey of India Toposheet 47J/10 and is herein considered and called as “Janglewadi Odha”.

The Janglewadi Odha is a 4th order ephemeral stream, that drains into the Ghod River. The Janglewadi Odha flows in the NE-SW direction upto the west of village Rahinjwadi where it is joined by the 3rd order N-S trending stream. After the confluence the stream is perineal.

Overall, the drainage pattern of Janglewadi Odha is dendritic and reflects the homogeneous substrate. For easier understanding, an area around the Janglewadi Odha is termed and referred as Janglewadi Odha micro-watershed. It is covered by soil and underlain by vesicular basalts belonging to the Cretaceous-

Palaeogene Deccan Traps. In the SW the microwatershed is covered by a thin veneer of Quaternary alluvium between Pimpalchamala and Kashti along the Ghod River.

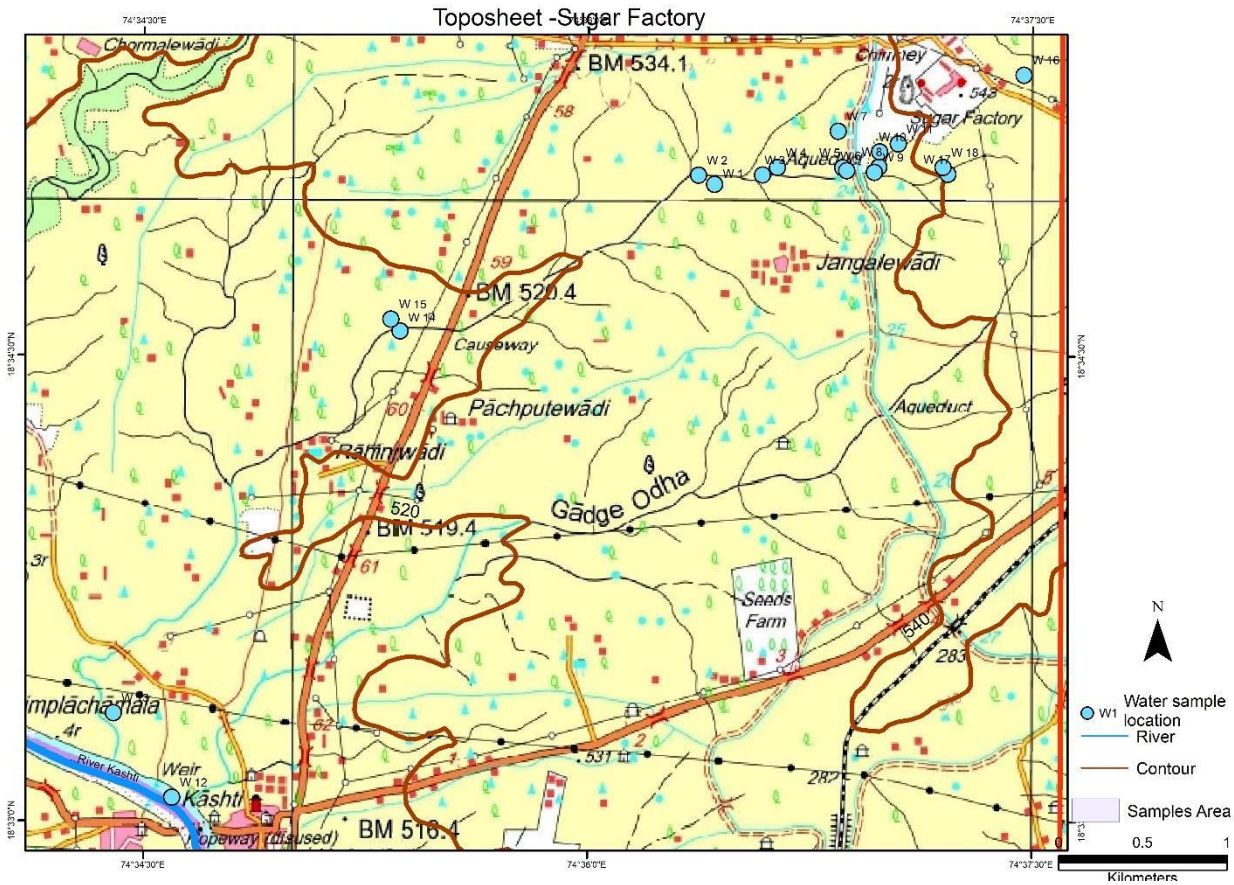


Fig. 2.1: Part of Survey of India toposheet for the Janglewadi Odha mini watershed showing the Sugar Factory and water sample locations (in blue circled spots)

The NE of the Janglewadi Odha is drained by the Ghod left bank canal and its subordinate branches. One such branch from the Ghod left bank canal runs in the NE-SW direction south of Pachputewadi-Rahinjwadi and Pimplachamala. Another major branch of Ghod Left Bank Canal is present to the north of the study area and irrigates the region south of Thokriwadi. The Ghod Left Bank Canal and its subordinate branches constitute the command area where canal water is used for irrigation and groundwater from dug wells and borewells are used for protective irrigation or seasonal crops. The return flow (recharge) from the command area tends to flow towards the lower part of the micro watershed where the major cation and anions tend to concentrate giving a poor water quality in the Pimplachamala-Kashti areas.

The test results of ground water samples collected mostly of the affected wells are presented here in the graph form as well as tabulated. Test reports of the same are enclosed as annexure to this report (Annexure VII). For easier understanding the test values of important parameters are given in graphical form. These graphs are prepared for a group of samples collected from a specific area/zone. Details of the same are as follows.

Table 2.1: Categorization of zones and details of sample collected form each zone

Sampling Zone	Sample Location/identification Code	Location/Identification Details*
Zone 1	W01 to W07	Samples from molasses spread area; distance in the range of 490 m to 1350 m from accident site
Zone 2	W08 to W11	Samples from molasses spread area; located within 400 m from accident site
Zone 3	W12 and W13	Samples collected from dug well near river Ghod; located at a distance of 5960 m and 5,920 m respectively from accident site
Zone 4	W14, W15 and W19 to W23	Samples from affected area beyond 3,000 m from accident site
Zone 5	W16, W17 and W18	Samples from area where molasses spread not observed

* distances given in the table are aerial distances measured using Google Earth Image. It is from the molasses storage tank of the distillery unit.

The distance of each location from the accident site/factory site estimated through Google earth image is as follows.

Table 2.2: Geographical location and distance from factory of collected samples

#	Location/Identification code	Distance (aerial distance in m)	Latitude & longitude
1	W 01	1270	18°35'3.14"N, 74°36'25.58"E
2	W 02	1350	18°35'4.91"N, 74°36'22.31"E
3	W 03	980	18°35'4.96"N, 74°36'35.29"E
4	W 04	880	18°35'6.43"N, 74°36'38.30"E
5	W 05	520	18°35'6.40"N, 74°36'51.53"E
6	W 06	500	18°35'5.83"N, 74°36'52.37"E
7	W 07	490	18°35'13.42"N, 74°36'50.61"E
8	W 08	320	18°35'6.57"N, 74°36'58.86"E
9	W 09	380	18°35'5.50"N, 74°36'57.96"E
10	W 10	280	18°35'9.49"N, 74°36'59.02"E
11	W 11	150	18°35'11.01"N, 74°37'2.81"E
12	W 12	5960	18°33'4.49"N, 74°34'35.83"E
13	W 13	5920	18°33'20.80"N, 74°34'23.99"E
14	W 14	3320	18°34'34.68"N, 74°35'21.90"E
15	W 15	3340	18°34'36.97"N, 74°35'20.05"E
16	W 16	690	18°35'24.36"N, 74°37'28.24"E

17	W 17	300	18°35'5.19"N, 74°37'12.86"E
18	W 18	260	18°35'6.48"N, 74°37'11.84"E
19	W 19	2474	18°34'55.21"N; 74°35'45.08"E
20	W 20	2603	18°34'53.54"N; 74°35'41.01"E
21	W 21	2442	18°34'55.23"N; 74°35'46.18"E
22	W 22	2984	18°34'40.11"N; 74°35'31.78"E
23	W 23	2600	18°34'49.71"N, 74°35'41.47"E

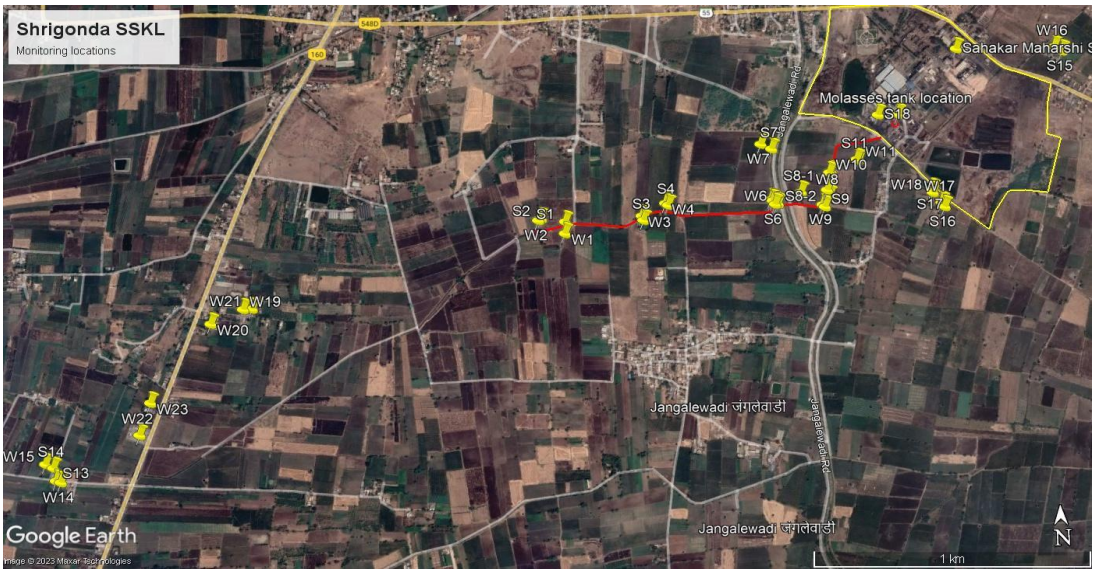


Figure 2.2: The sugar factory premises and the location of the tank is shown; The red line indicates the flow of molasses in the natural drainage.

Figure 2.3: Ground water monitoring locations from zone 1- sample W01 to W07 and the sugar factory premises (Yellow polygon) showing the molasses tank location where accident occurred





Figure 2.4: Photographs of water sampling conducted for damage assessment study

Sampling Zone 1: Locations W 01 to W 07 - Samples from molasses spread area; distance in the range of 490 m to 1350 m from accident site

In the entire sampling zone, dug wells are the only groundwater sampling source. There is a canal passing between the sugar factory and this sampling zone. This zone observed moderate spread of the molasses after the accident. Molasses flowed in the natural drainage passing close to the sampled dug wells. It was spread partially in the agricultural fields along the natural drainage. Dug well water contamination was observed to minor extent. W 05 and W 06 sample locations are very close to the natural drainage that carried molasses after the accident. These locations are observed very close to the canal. Similarly, location W04, W 03 and W 02 were other sampling locations close to and in downstream directions of the natural drainage.

Sampling Zone 2: Locations W8 to W11 - Samples from molasses spread area; located within 400 m from accident site. This is the high affected zone, located in the immediate surroundings of the accident site. In this, sampling locations W10 and W08 are observed very close to the natural drainages. Local persons communicated that these two wells were majorly affected by the accident. Molasses entered into these wells and contaminated the water. Therefore, the analysis results of ground water samples collected from these locations are of high importance for the study.

Figure 2.5: Groundwater monitoring locations from sampling zone 2- sample W08 to W11

Sampling Zone 3: Samples collected from dug wells near river Ghod; located at a distance of 5,960 m and 5,920 m respectively from the accident site. These two locations were at distant places from the accidental site. The objective of sampling here was to check the status of ground water near the river, any influence of accident through the discharges from nala on ground water before it meets the river (Ghod). In addition, any capillary action from river water was also able to check.

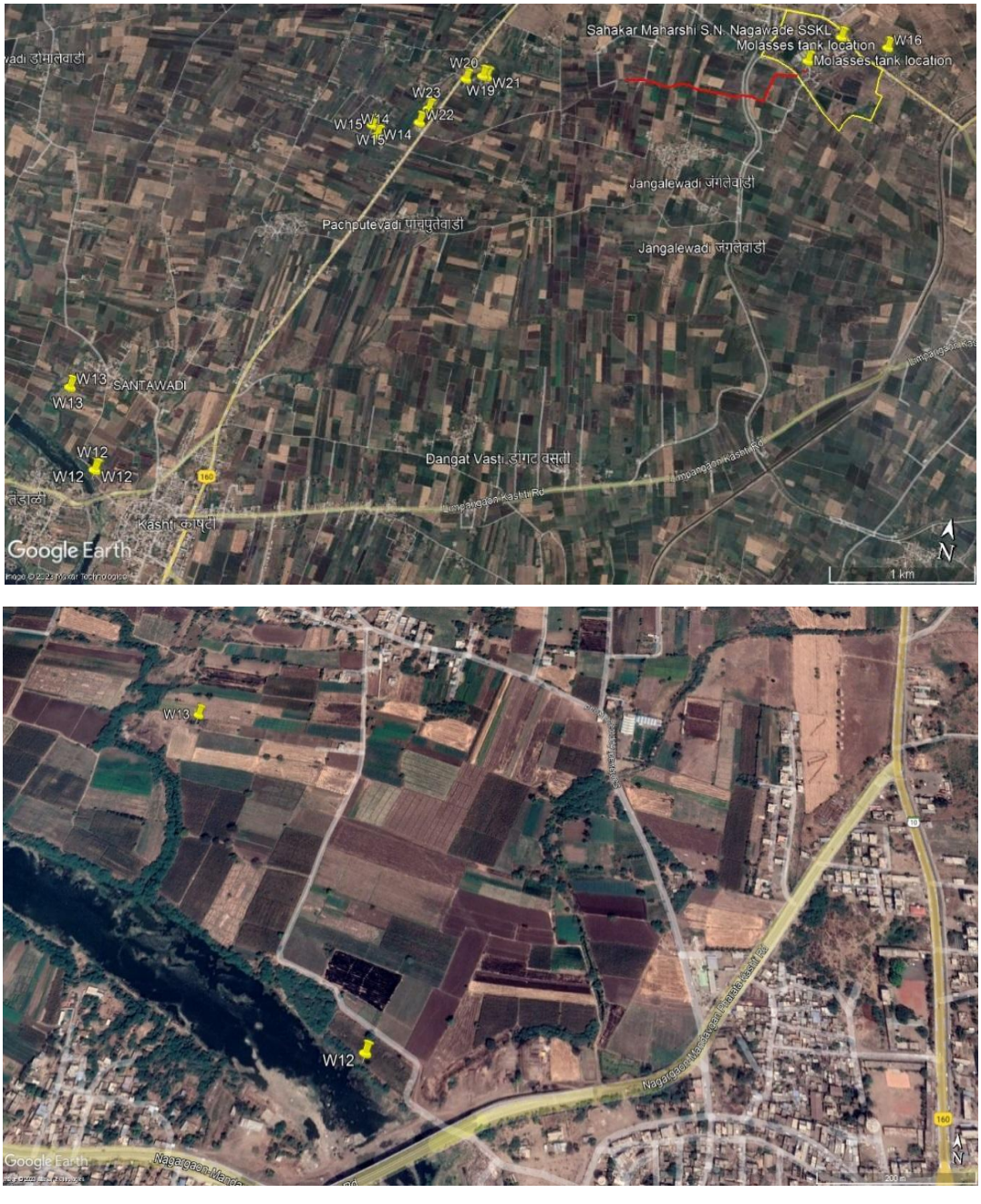


Figure 2.6A and 2.6B: The first image shows the site and sampling location W 12 and W13 and second image shows the close-up of location W12 and W13.

Sample zone 4: Samples from affected area beyond 3000 m from accident site (Sample W14, W15, W19 to W23)

After the accident, molasses which flowed through the natural drainage was stopped near location W02 and W01 (locations marked at figure 2.3) by constructing a temporary bund. The factory lifted the molasses from this point, carried it into the tankers to the spent wash storage tanks of the factory. Therefore, the samples W14, W15 and W 19 to W23 considered as low or low to moderately affected.

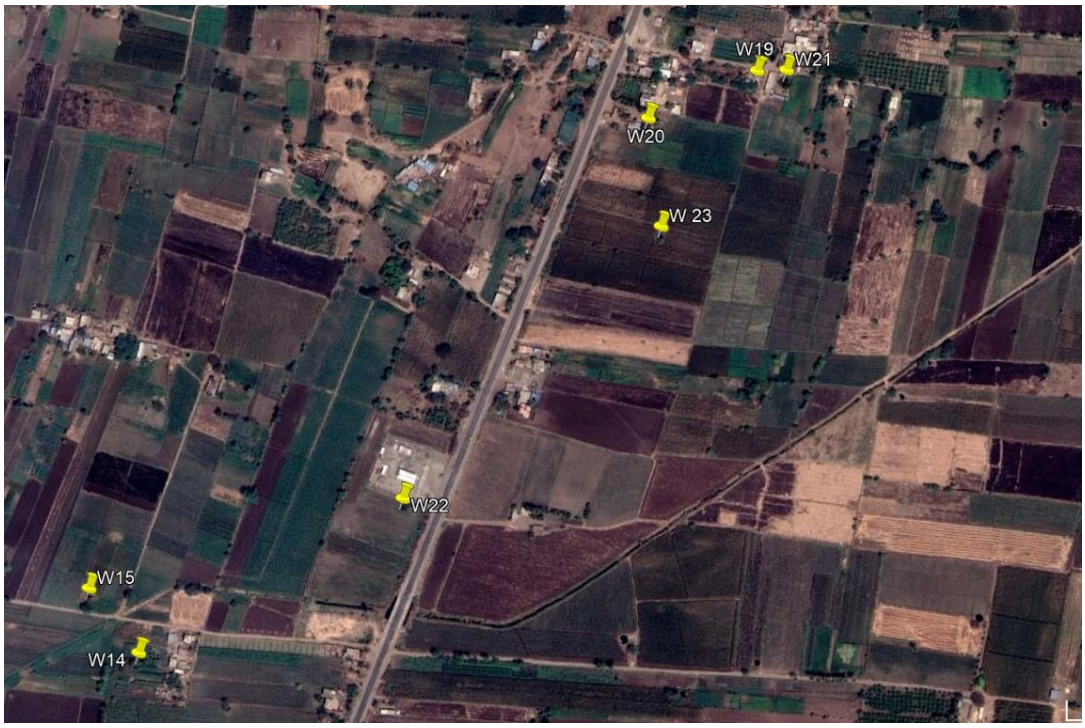


Figure 2.7: Groundwater monitoring locations from sampling zone 4- sample W14, W 15 and W19 to W 23

Sample zone 5: Samples from area where molasses spread not observed (W 16 to W 18)

Sample locations of this zone were situated on the upper side of the natural drainage (W17 and W18) and one sample location W16, on the other side of the factory/opposite side of the accident affected area. The test results of the same indicate the baseline values of various parameters for the rest of the non-affected area. By comparing the results of samples from the affected areas with these sample results, it will able to get some conclusion about the impact due to accidental intrusion of pollutants.

Figure 2.8: Groundwater monitoring locations from zone 5- sample W16 to W18

Table 2.3: Analysis results of Ground water samples collected from the study area

Parameters	Unit	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11
pH at 25°C	---	7.7	7.5	7.5	7.6	7.7	7.5	7.5	7.4	7.4	7	6.8
Electrical Conductivity@25°C	µmhos/cm	1275	1230	1056	0980	0979	0876	0846	4076	1983	1884	2771
Colour unit	CU	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Total Dissolved Solid	mg/l	760	732	628	568	568	536	502	2438	1182	1122	1658
Chemical oxygen demand	mg/l	64	48	16	16	32	16	32	64	32	48	96
Biochemical Oxygen Demand 27° C for 3 days	mg/l	26	19	5	5	10	5	13	26	13	19	35
Total Suspended Solids	mg/l	8	10	6	8	8	6	12	16	6	8	8
Hardness(Total)	mg/l	206	296	208	202	200	190	182	1040	640	640	680
Dissolved Oxygen	mg/l	4	4.1	3.8	3.9	3.8	3.9	3.6	3.8	3.3	3.8	3
Total Solids	mg/l	1124	1128	848	724	726	608	592	372.8	1242	1168	1694
Chlorides as cl	mg/l	99.97	139.96	119.96	89.97	99.97	59.98	39.99	499.85	439.8	269.9	389.8
Calcium as Ca	mg/l	72.14	88.17	77.14	76.15	108.21	96.19	60.12	284.56	148.29	156.31	228.45
Fluoride as F	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Magnesium as Mg	mg/l	6.31	18.46	6.318	2.916	22.30	22.79	29.61	183.57	116.56	117.53	109.72
Residual Chlorine	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Sulphate as SO4	mg/l	140	163	125	103	112	80	78	567	435	351	412
Phosphorous (P)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Potassium (K)	mg/l	2	1	1	2	2	2	BDL	1	1	1	5
Sodium (Na)	mg/l	48.66	38.22	48.96	29.06	29.06	29.06	27.68	218.7	213.7	167.4	206.8
N as Nitrate (NO3) nitrogen	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Total alkalinity as CaCO3	mg/l	257.5	402.5	300	197.5	210	212.5	225	360	372.5	387.5	695
Silica (SiO2)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	2.467	4.54
Copper (Cu)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Manganese (Mn)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Iron (Fe)	mg/l	2.595	0.321	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Lead (Pb)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Nickel (Ni)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Chromium (Cr) Total	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Cadmium (Cd)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Zinc (Zn)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Parameters	Unit	W12	W13	W14	W15	W16	W17	W18	W19	W20	W21	W22	W23
pH at 25°C	---	7.8	7.4	7.2	7.2	7.9	7.5	7.7	7.14	7.37	7.39	7.78	7.2
Electrical Conductivity@25°C	µmhos/cm	5848	6389	3071	1898	1245	1001	5035	1780	2480	3560	1610	3130
Colour	CU	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Total Dissolved Solid	mg/l	3320	3742	1762	1134	736	596	3002	1098	1500	2140	968	1897
Chemical oxygen demand	mg/l	16	16	16	BDL	48	16	176	16	24	20	20	46
Biochemical Oxygen Demand (@27°C for 3 d)	mg/l	6	6	6	BDL	19	6	67	06	11	09	09	18
Total Suspended Solids	mg/l	4	16	10	8	6	6	20	14	16	14	12	72
Hardness(Total)	mg/l	780	900	620	680	440	260	840	330	510	330	130	1270
Dissolved Oxygen	mg/l	2.9	3.2	3	4.1	4	3.2	3	4.1	3.5	3.3	3.5	4.8
Total Solids	mg/l	4106	3776	1842	1152	796	612	3116	2012	1802	2168	1020	1942
Chlorides as cl	mg/l	479.8	659.8	379.8	429.8	269.9	219.9	529.8	899.72	1199.63	1499.54	799.75	374.88
Calcium as Ca	mg/l	224.44	436.87	108.21	112.22	116.23	100.2	172.34	80.16	120.24	112.24	40.08	245.28
Fluoride as F	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Magnesium as Mg	mg/l	135	112.54	122.41	137.97	80.62	38.83	162.24	31.59	51.03	12.15	7.29	159.89
Residual Chlorine	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Sulphate as SO4	mg/l	824	828	694	693	362	301	594	111.88	113.88	114.75	112.50	96.50

Parameters	Unit	W12	W13	W14	W15	W16	W17	W18	W19	W20	W21	W22	W23
Phosphorous (P)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Potasium (K)	mg/l	2	1	1	2.63	0	1	51.1	BDL	BDL	BDL	BDL	BDL
Sodium (Na)	mg/l	333.9	419.7	247.2	242.3	210.8	219.7	241.3	364	475.5	212.81	111.33	71
N as Nitrate (NO3) nitrogen	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1.7619	1.719	1.785	1.327	BDL
Total alkalinity (as CaCO3)	mg/l	330	335	295	260	245	345	467.5	125	135	150	145	302.5
Silica (SiO2)	mg/l	2.85	3.24	1.68	1.298	2.467	2.33	4.15	19.93	17.97	15.29	13.88	21.47
Copper (Cu)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Manganese (Mn)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Iron (Fe)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1.00	2.30
Lead (Pb)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Nickel (Ni)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Chromium (Cr) Total	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Cadmium (Cd)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Zinc (Zn)	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.12

BDL = Below Detection Limit

BDL value of respective parameter is given in the final test report enclosed as annexure VII to this document.

Water Quality Test Results

a) pH

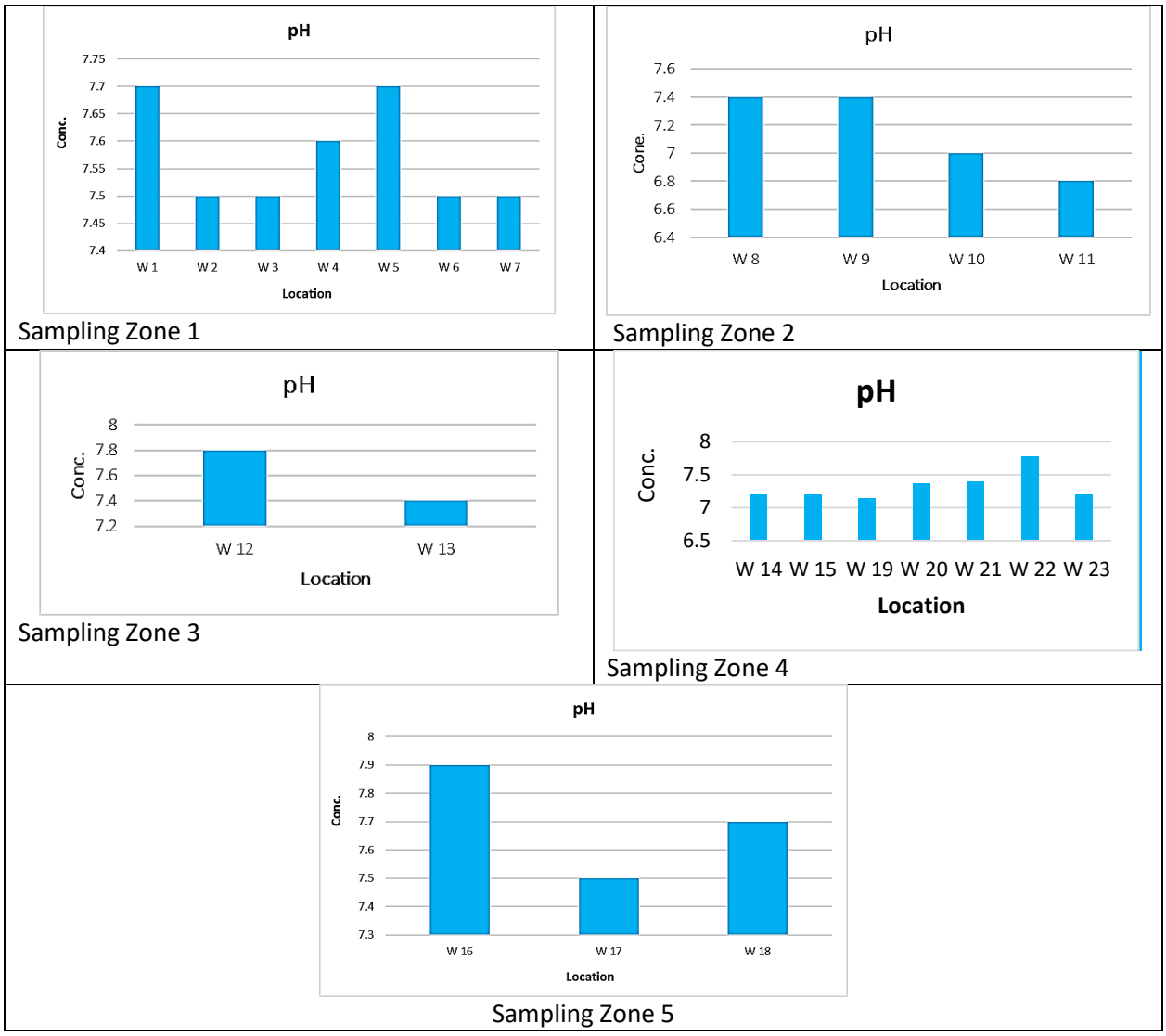


Figure 2.9: Graphical presentation of pH value of all groundwater samples of the study area

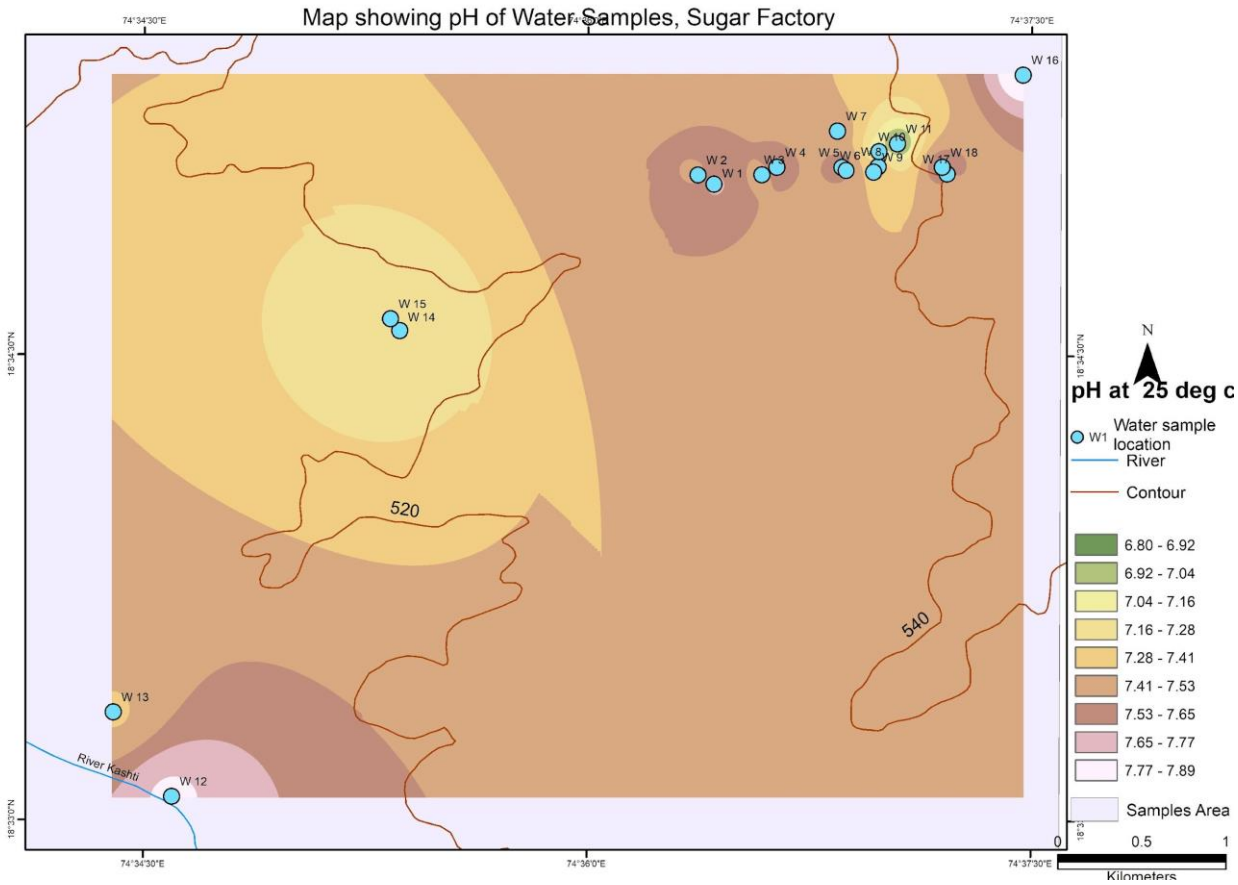


Fig. 2.10: Spatial distribution of pH in the study area

Observations: Test values observed for Zone 5 – which is a non-affected area – are important indicators and comparison of results from affected area will give easy understanding of overall test results. Sampling zone 01 and 02 were the moderate to high affected areas. Therefore, results of samples from this zone anticipated to give a true picture of the current situation.

To begin with, pH is the foremost important parameter. It was observed from table 1.1 that molasses is having acidic pH. Therefore, if it is present in the waterbody it would indicate acidic character of water. The groundwater from the study area was observed near neutral to slightly alkaline (pH: 6.8 to 7.9; avg. 7.5). The spatial variations of pH in the groundwater regime from the Janglewadi Odha micro watershed show interesting variations (Fig. 2.10). Highest pH is seen in dug-wells to the northeast of the Sugar Factory (W16 – non affected area) and close to the Ghod River near Kashti (W12). Lower pH (<7.2) is seen along the Ghod LBC and NW of Pachputewadi (W14, W15). The lower pH zone NW of Pachputewadi may be due to agricultural return flow from canal water irrigation. The area north of Janglewadi (W2 to W8) shows moderate to high pH. It was observed that, pH of 6.8 for sample W11 is the only sample from Sampling zone 2 having trace of acidic nature. All other ground water samples from Sampling zone 1 to 4 are having pH of 7.2 to 7.8. From the monitoring results, it was observed that the acidic effect due to molasses did not persisted for sampled locations. Probable reason for neutralization of pH of sampled ground water is rain water as well as natural dilution of ground water.

b) Electrical conductivity

Electrical conductivity of ground water samples from the study area show wide variations and range from 846 to 6389 µmhos/cm (Table 2.3). Based on the electrical conductivity the samples from the present study fall within 3 categories viz. 8 samples represent low (C1 < 2.68 µmhos/cm), 8 samples representing medium (C2 – 2.69 to 5.75 µmhos/cm), 2 samples representing high (C3 >5.56 µmhos/cm) electric conductivity. Lower EC is seen in dug wells (Fig. 2.11) to the northeast of the Sugar Factory (W16) and NW of Pachputewadi (W14, W15). High electrical conductivity (W12, W13) is seen in the south-western part of the Janglewadi Odha micro watershed in the Pimplachamala-Kashti areas.

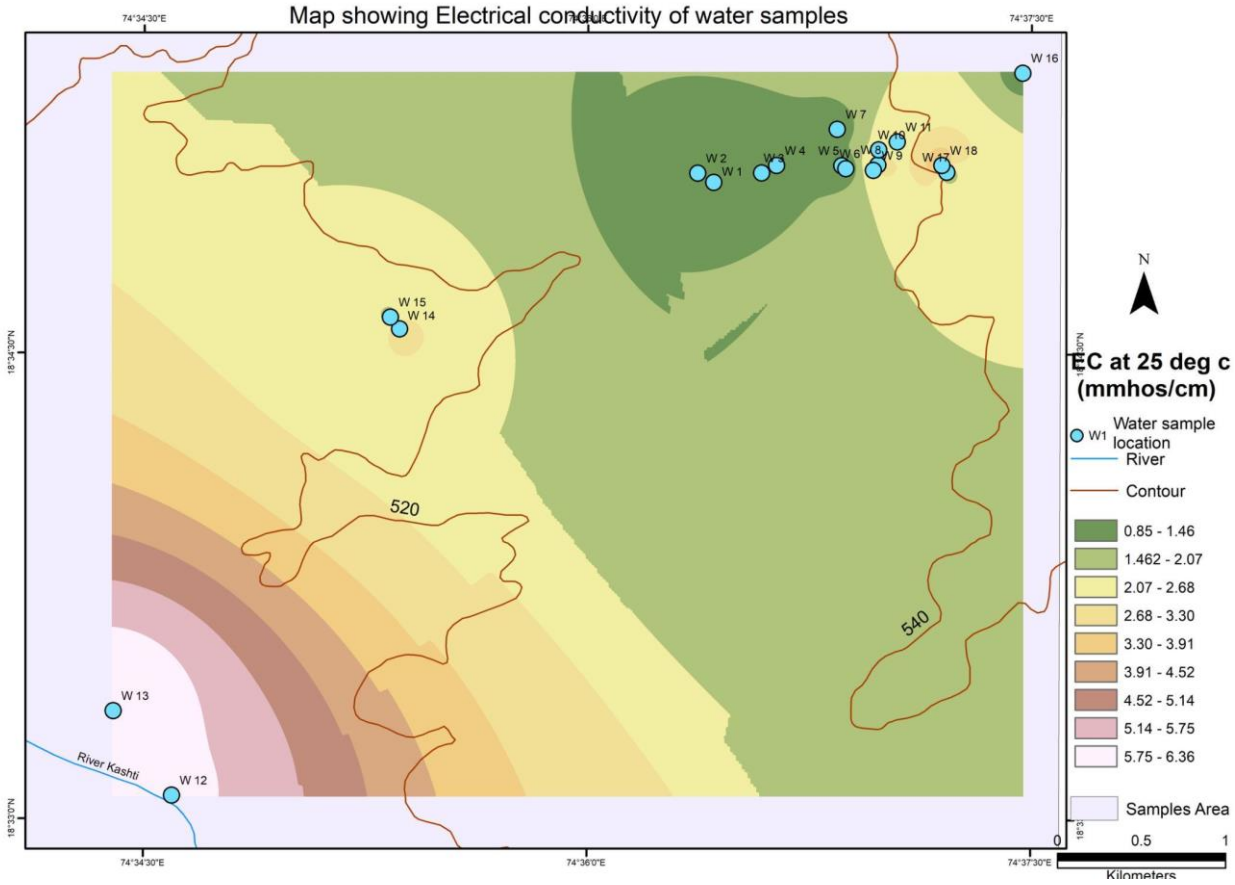


Fig. 2.11: Spatial distribution of electrical conductivity of ground water in the study area

c) Dissolved Oxygen (DO)

Dissolved Oxygen (DO) is vital for the survival of aquatic life forms in water. Dissolved oxygen also affects oxidation-reduction reactions involving iron, manganese, nitrogen and sulphur. It is desirable to maintain dissolved oxygen level as near saturation as possible.

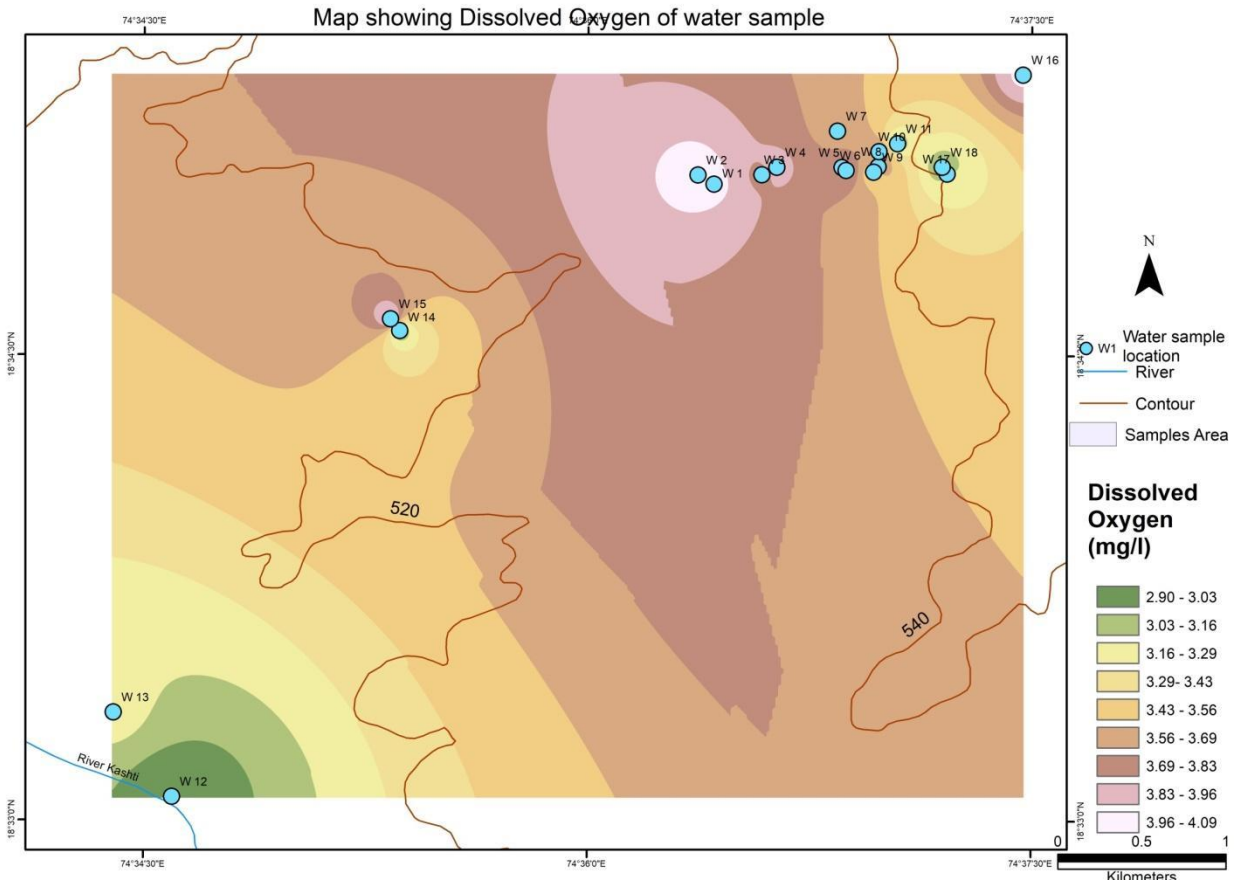
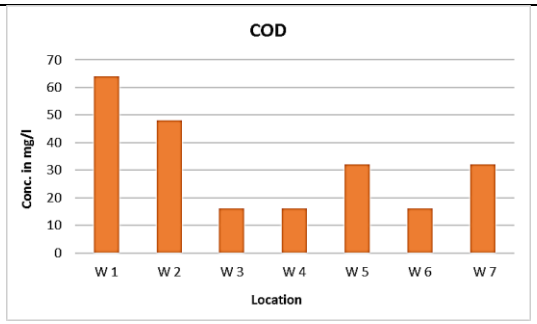


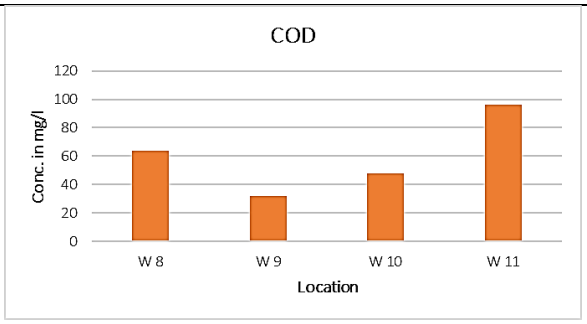
Fig. 2.12: Spatial distribution of DO in the study area

DO is a principle measurement in pollution surveys. Low levels of DO indicate that the water is contaminated with reducing substances. In the groundwater samples from the Janglewadi Odha micro watershed, DO range observed from 2.9 to 4.8 mg/l. The DO shows spatial variations in the Janglewadi Odha micro watershed as two high zones (Fig. 2.12), one to the northeast of the Sugar factory (W16 – DO 4.0 mg/L), and the other along a stream section north of the Janglewadi (W1, W2) and northwest of Pachputewadi (W15). Moderate DO has been recorded northwest of Pachputewadi and for location W 01 to W10 with DO levels in the range of 3.3 mg/L to 4.1 mg/L. Lowest DO value in the study area has been recorded at W12 near Kasthi (DO = 2.8 mg/L) near the confluence with Ghod River.

d) COD



Sampling Zone 1



Sampling Zone 2

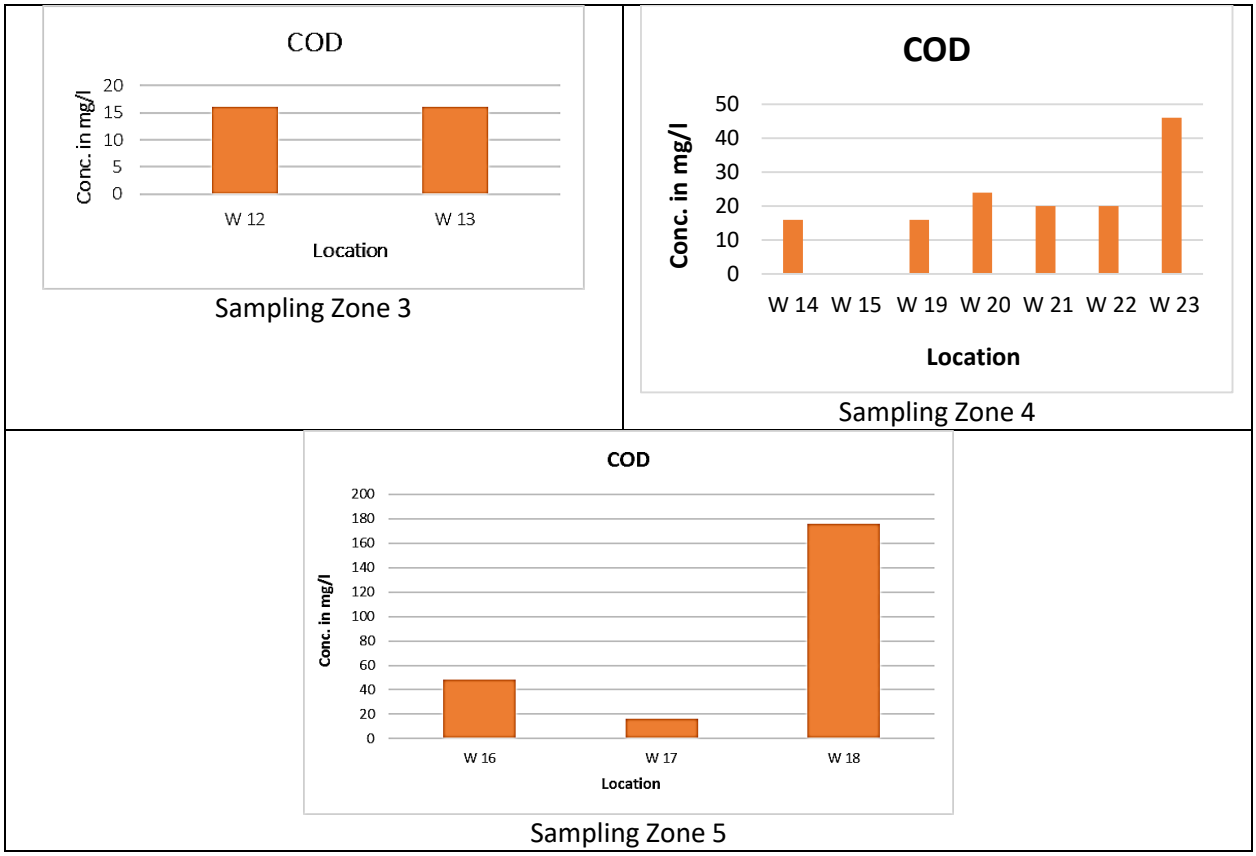


Figure 2.13: Graphical presentation of COD values observed for all groundwater samples of the study area

One of the most important parameter of the study was Chemical oxygen demand (COD). COD was considered as a prime parameter to understand the characteristics of water (ground water) in terms of pollution concentration. Chemical Oxygen Demand (COD) is used for measuring the pollution strength of domestic as well as industrial wastes. All organic compounds can be oxidized; therefore, COD values are generally greater than BOD. However, with COD, it is not possible to distinguish biologically degradable and non-degradable organic matter. COD values from 16 mg/L to 96 mg/l are recorded in the groundwater samples from affected area. Significant variations of COD are seen in the study area. Low COD is seen in the region west of micro watershed (W12 to W15). Low COD (≤ 20 mg/L) isolated pockets are seen around W3, W4, W6, W17 to W19 and W21 and W22 (Fig. 2.13). Of these, sampling location W3, W4 and W6 are very close to the natural drainage that carried the molasses after accident. **According to the Champman (1992), COD of unpolluted water is observed <20 mg/L.** COD value more than 20 mg/L but less than 50 mg/L was reported at W1, W 2, W 5, W7, W 10, W 16, W 20 an W 23. Whereas location W8 and W11 reported COD of 64 mg/L and 96 mg/L respectively. W16 and W 18. Location W 16 and W 18 are from sampling zone 5, which was not affected by the molasses spread. But here, COD value observed 48 mg/L (W 16) and 176 mg/L (W18). This may be due to local contamination of groundwater. Considering the COD of molasses, which was maximum upto 69,000 mg/L (refer table 1.2), traces or fractional COD levels

observed for the sample collected from the study area and particularly from the molasses spread area. It indicates that the impact of molasses as a contaminant of groundwater is totally mitigated.

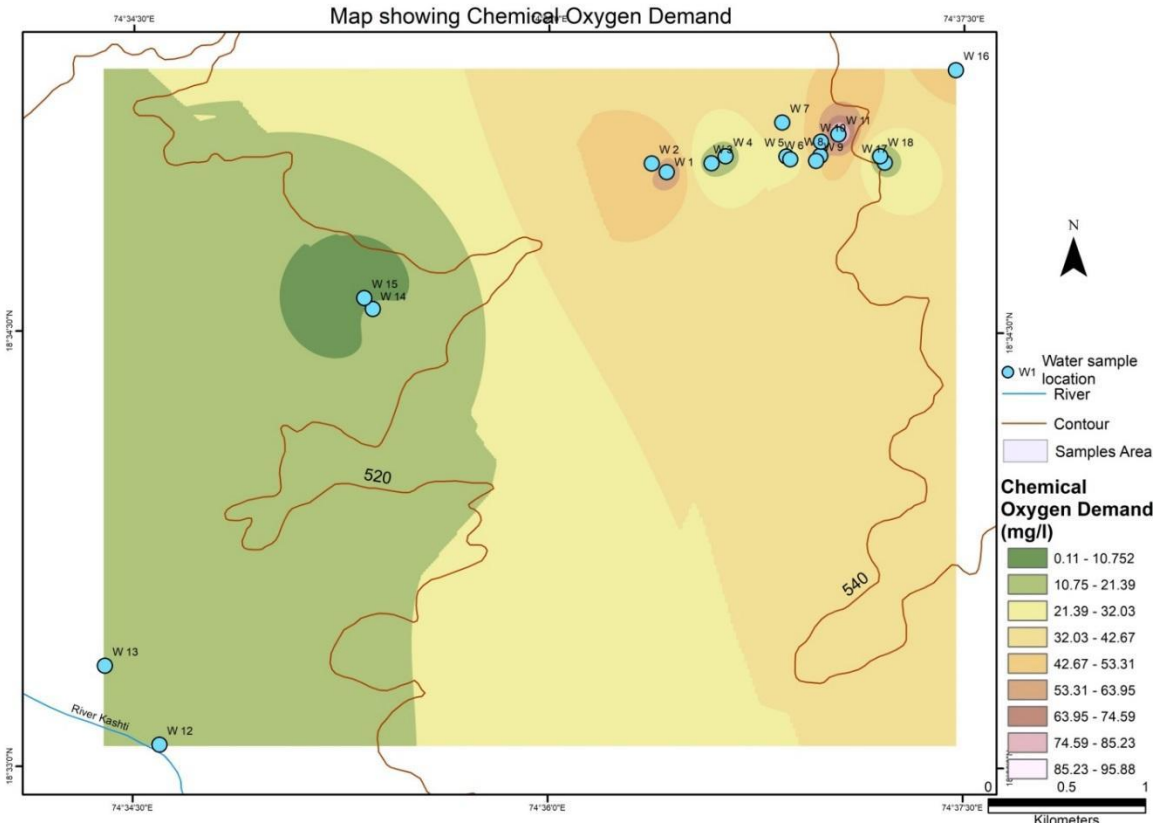
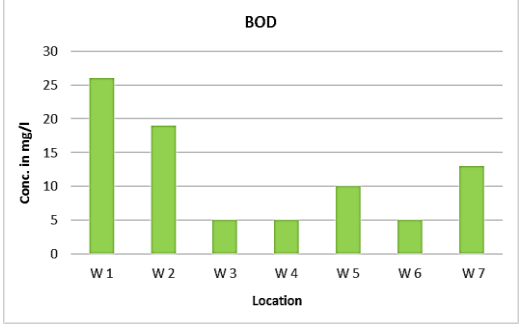
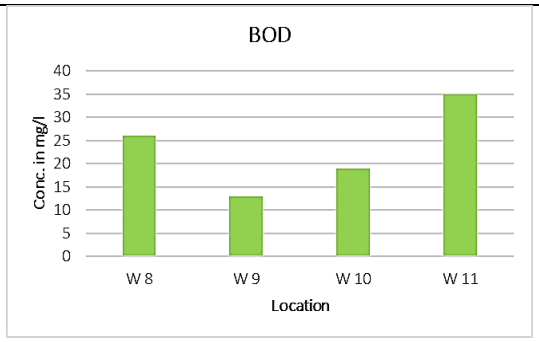


Fig. 2.14: Spatial distribution of COD in the study area

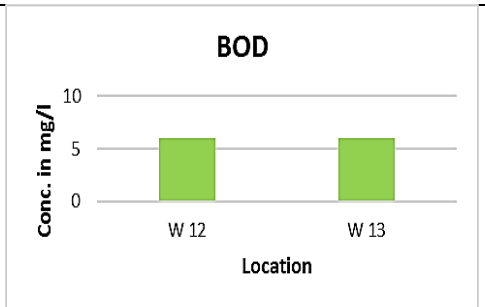
e) Bio-chemical Oxygen Demand (BOD)



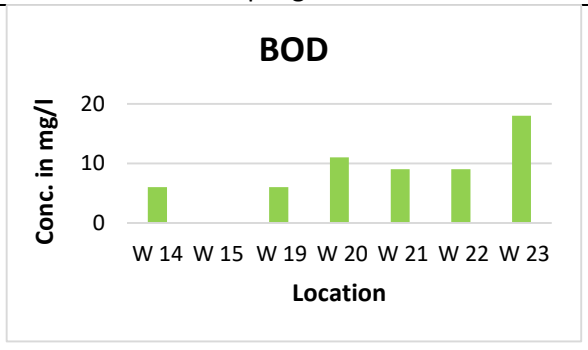
Sampling Zone 1



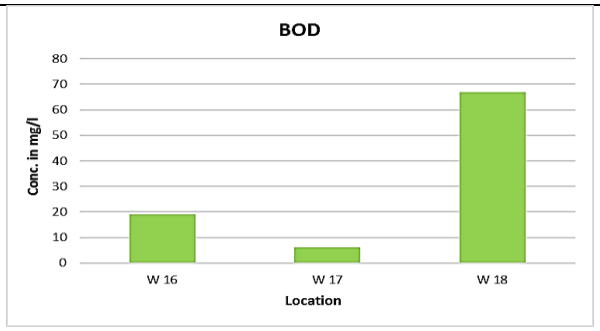
Sampling Zone 2



Sampling Zone 3



Sampling Zone 4



Sampling Zone 5

Figure 2.15: Graphical presentation of BOD values observed for all ground water samples of the study area

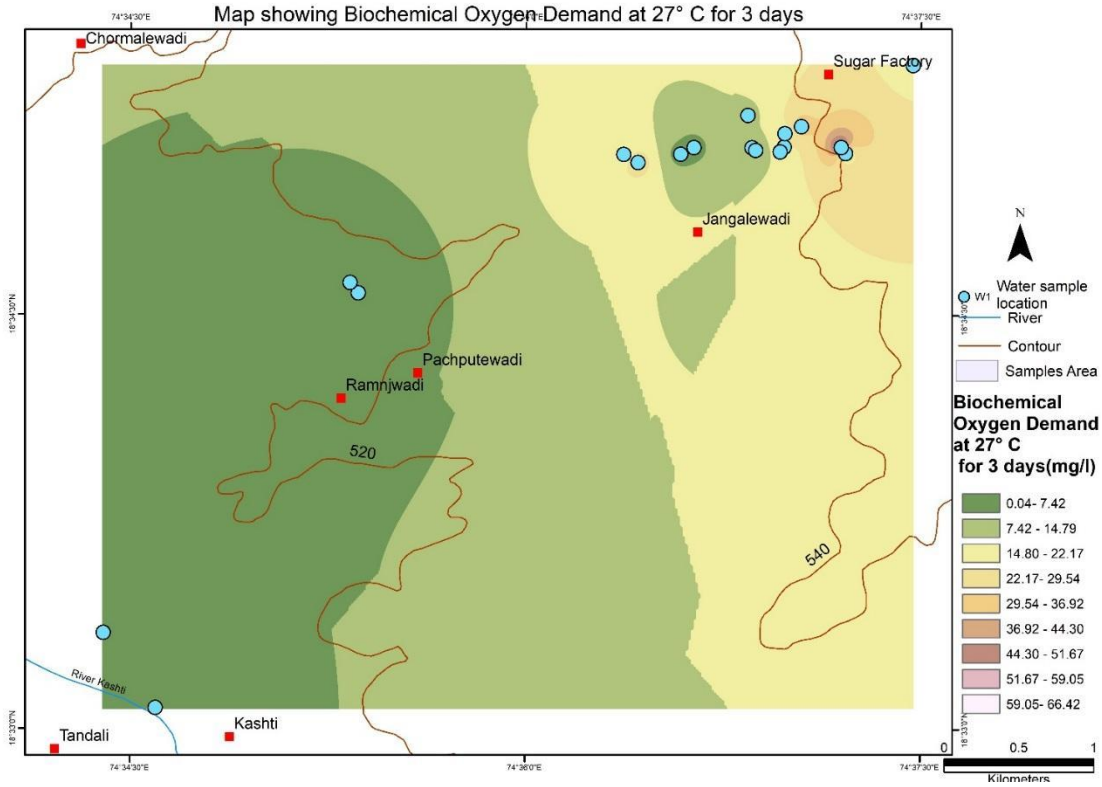


Fig. 2.16: Spatial distribution of BOD in the study area

Biochemical Oxygen Demand (BOD) test measures the oxygen required or consumed by microbes/bacteria, during the process of oxidizing organic matter under aerobic conditions. Greater the organic matter in the water, higher the BOD. The test is therefore used to measure the purification capacity of streams and other water bodies and thus serves the Regulatory Authorities as means of checking on the quality of effluents discharged into such water bodies. In the present study, BOD of 5 to 67 mg/l observed for groundwater samples from the affected area of the study. Out of 23 samples, 12 samples reported to have value of less than 10 mg/L. BOD levels of W 1 to W7 samples observed <30 mg/L. BOD values for samples collected from W3, W4 and W6 observed 5 mg/L. Whereas, BOD value for location W5, W7 and W2 recorded as 10 mg/L, 13 mg/L and 19 mg/L respectively. For location W1, BOD value was 26 mg/L. BOD test values for

monitored locations of sampling zone 2 observed below 30 mg/L except for location W 11. At this location BOD was recorded as 35 mg/L. Highest BOD value of 67 mg/L was recorded for sample W 18 which is from non-affected area.

Therefore, two key pollution indicator parameters i.e. COD and BOD – test values reported for the ground water samples of the study area show low values at most of the monitored locations. COD values more than 50 mg/L reported only at three locations. Similar trend observed for BOD values. Therefore, impact of molasses spread on ground water quality of the study area was not observed from the test results.

f) Total Hardness

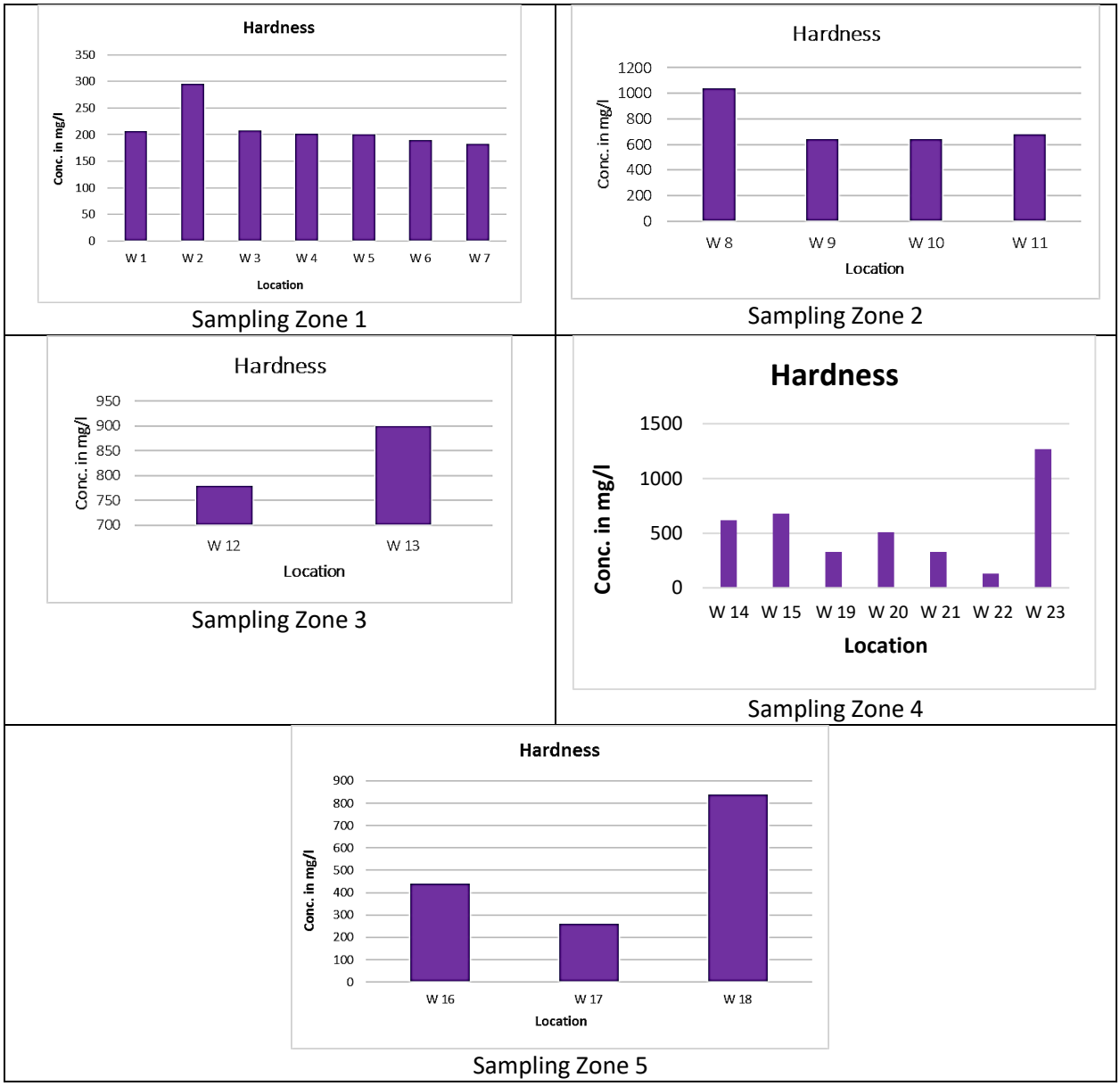


Figure 2.17: Graphical presentation of parameter Hardness observed for all ground water samples of the study area

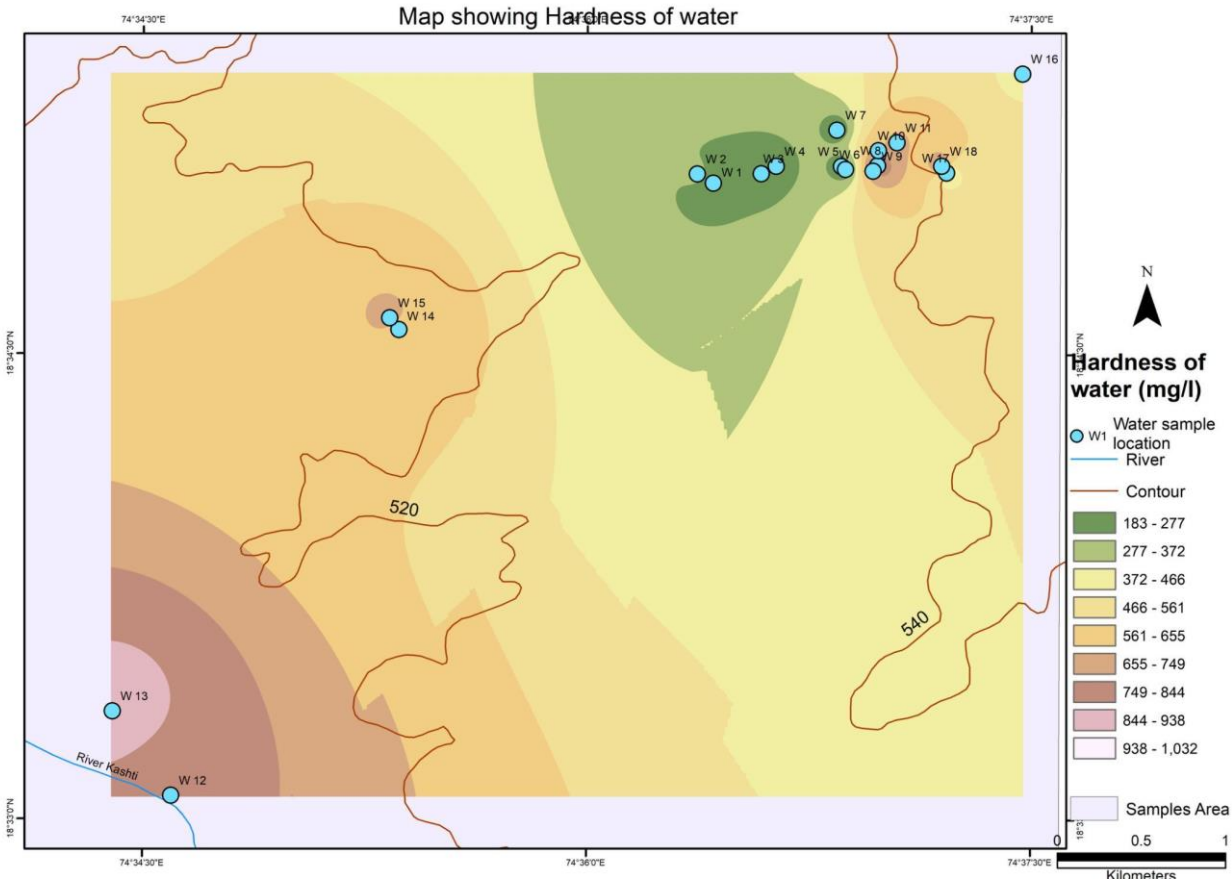


Figure 2.18: Spatial distribution of Hardness in the study area

Total Hardness is an important parameter of groundwater quality, especially when the water is to be used for domestic purposes. Hardness of water indicates the amount of calcium and magnesium dissolved in it. Therefore, water hardness is the total calcium and magnesium ion concentration in a water sample. It is expressed or reported as mg/l as CaCO3 equivalent (i.e. concentration of calcium carbonate). Dissolved calcium (Ca++) and magnesium (Mg++) are the only two divalent cations found at appreciable levels in most waters. In natural water, both calcium and magnesium primarily exist bound to bicarbonate, sulfate or chloride.

The Total hardness is mainly due to Ca and Mg and originates in areas where topsoil is thick and lime rich formations are present. In basalts, the weathering of plagioclase releases abundant Ca along with Mg, which is also additionally released by weathering of augite and olivine.

The Total Hardness for groundwater samples from the study area shows wide variation from 130 to 1270 mg/L. A total of 10 groundwater samples from the micro watershed have total hardness above the prescribed drinking water limit of 600 mg/l. The excess of total hardness in the groundwater may cause scale deposition in the distribution system, excessive soap consumption, scum formation and lead to health hazards such as urolithiasis, nervous system defects, etc. Interestingly, the total Hardness of groundwater varies spatially along the natural nala (Janglewadi Odha) (Fig. 2.18). Moderate to high total hardness was

reported from ground water samples along the Ghod left bank canal and NW of Pachputewadi (W14, W15 and W 09, W 10, W 11). High total hardness was reported for ground water samples from Pimplachamala-Kashti areas (W12, W13), in sampling zone 2 at location W 08 (1040 mg/L)and in sampling zone 05 at location W18 (840 mg/L), W23 (1270 mg/L). Hardness of sample W1 and W3 to W 7 was observed around 200 mg/L. Only for sample W 2 it was observed 296 mg/L. These hardness values of sample W 01 to W 07 was observed expressively less when compared to samples W 16, W 17 and W 18 which represents non-affected areas. For many of the samples, the limit prescribed by IS 10500; 2012 for hardness observed exceeded. Its prescribed acceptable limit is 200 mg/L.

g) Total Dissolved Solids (TDS)

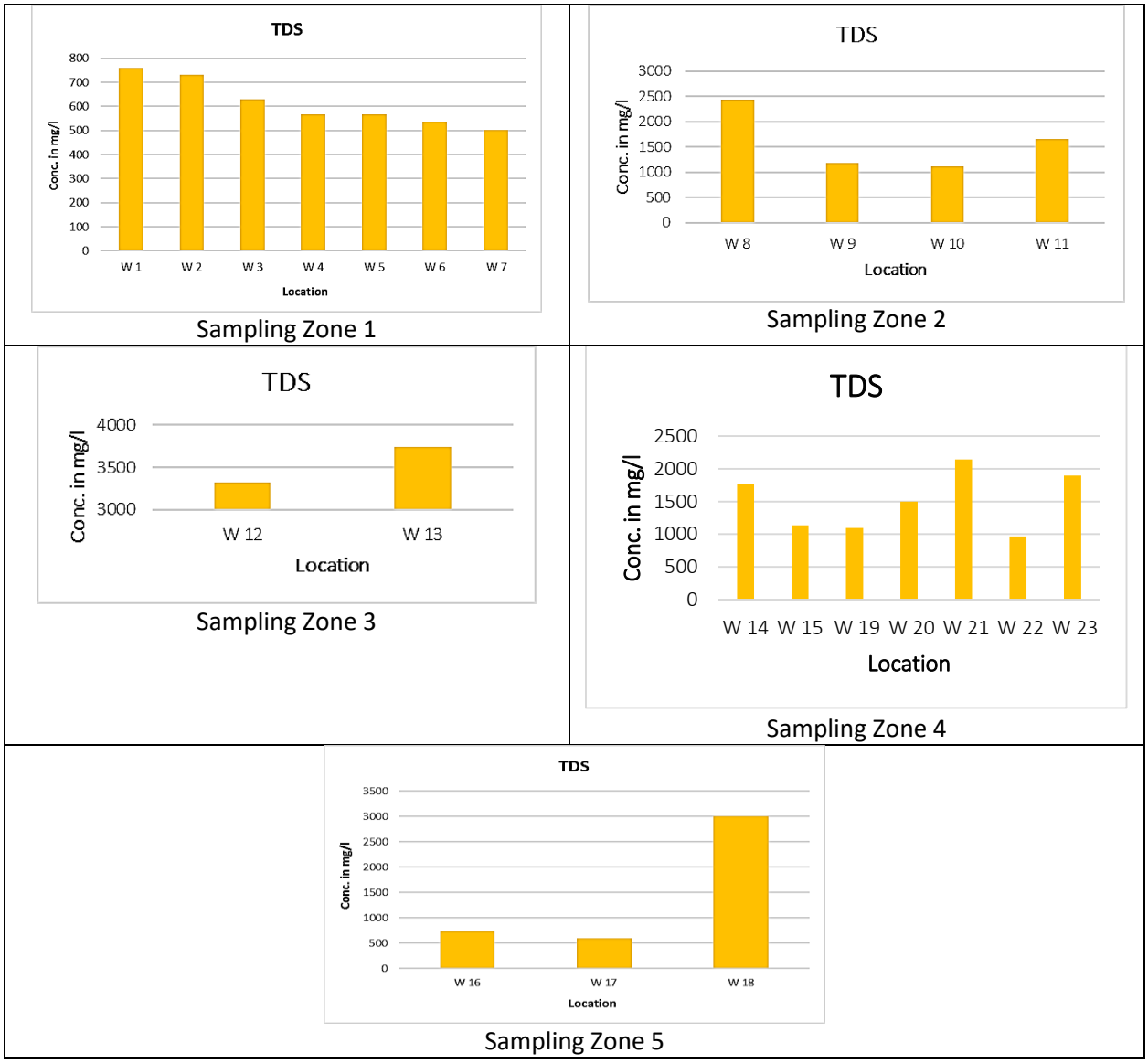


Figure 2.19: Graphical presentation of parameter TDS observed for all groundwater samples of the study area

Total dissolved solids or TDS is the amount of dissolved ions, including salts, minerals and metals, in water source. Hardness and TDS, these two parameters are broadly indicating the characteristics of ground water particularly for drinking and domestic purposes. IS 10500; 2012 prescribes acceptable limit of hardness as 200 mg/L and total dissolved solids this limit is at 500 mg/L.

TDS of samples observed above 500 mg/L at all locations. For locations W 4 to W 7 TDS was observed in the range of 502 mg/L to 568 mg/L. TDS of samples collected at W1 and W2 observed 760 mg/L and 732 mg/L respectively. TDS value exceeding 3000 mg/L reported for locations W 12 and W13 which are near rive Ghod. These locations are almost 6 km from the site. Similarly, for location W 18 which is from a non-affected area, TDS value reported here of 3002 mg/L. In short, this area is a drought prone area. Due to high abstraction of ground water TDS values may be observed high in this area. An impact due to the accident on TDS values of ground water samples of study area, not observed from the results of the tested samples.

h) Other major cations and anions

Calcium is one of the most abundant cations in the groundwater from the area. The calcium concentration in the study area ranges from 60.12 to 436.87 mg/l. The abundance of calcium can be related to weathering of plagioclase and augite in the basalts and precipitation of calcrete or calci from surface water or groundwater. The Magnesium (Mg) concentration in the groundwater from the study area is subordinate to Calcium and has a limited range from 2.91 to 183.57 mg/l. Third major cation studied for groundwater from the study area was Sodium (Na). Its concentrations ranged from 29.06 to 475.5 mg/L. The concentration of potassium (K) in the groundwater of study area observed below detection level for most of the samples. But, highest potassium level of to 51.1 mg/l reported for location W 18.

The chloride (Cl) content in the well water samples of study area observed vary in the range of 39.99 to 1499.54 mg/l. High chloride of > 200 mg/l is associated with 16 from the study area and can be attributed to several factors such as domestic sewage, effluents and excessive irrigation with poor drainage and water logging. Thus, in the micro watershed the high EC-Cl water appears to be associated with the highly saline waters from Pimpalchamala and Kashti along the Ghod River. Lowest Chloride content reported in dugwells along the stream north of Janglewadi.

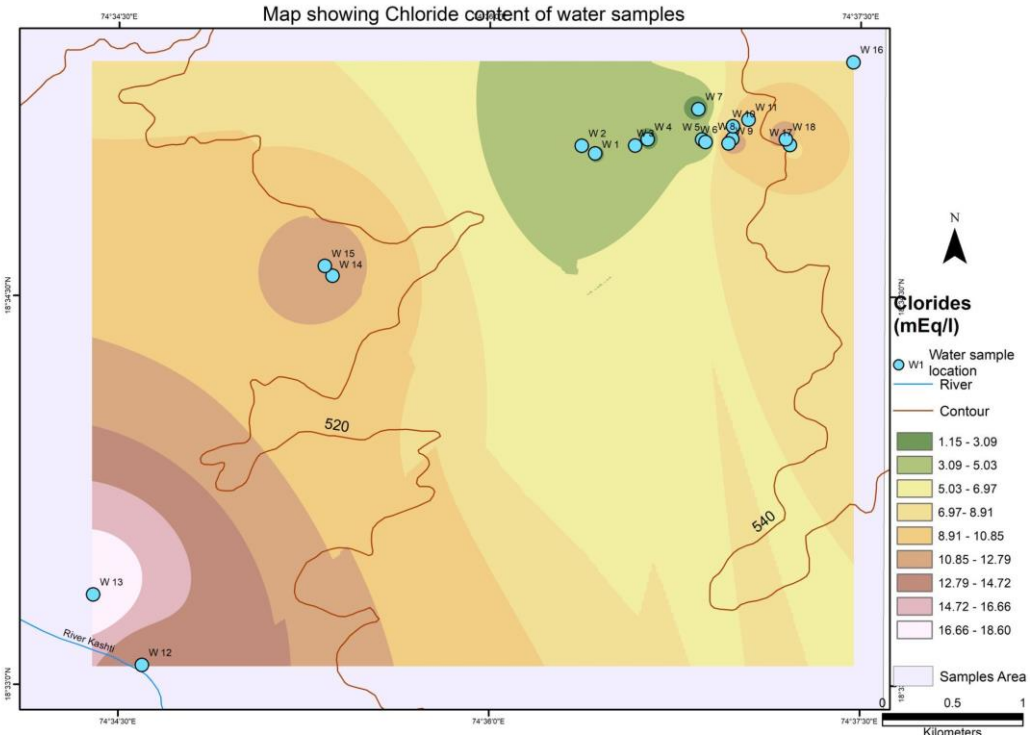


Figure 2.20: Spatial distribution of Chloride in the study area

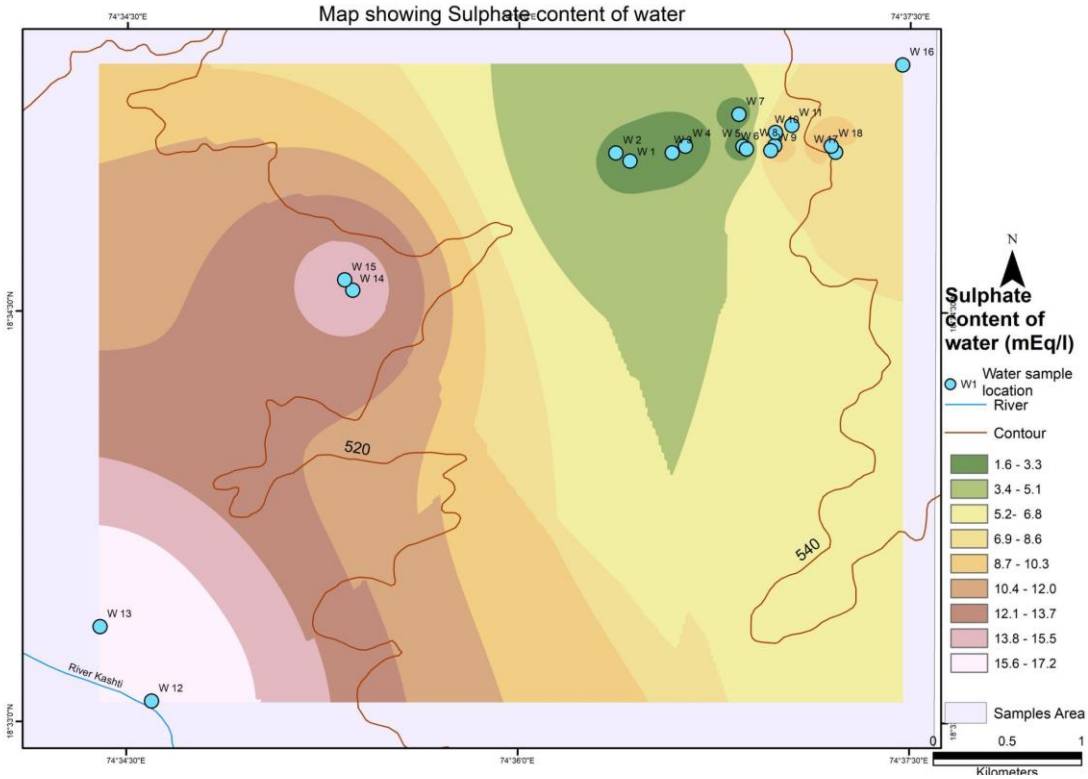


Fig. 2.21: Spatial distribution of Sulphate in the study area

In case of sulphate (SO_4) content of groundwater from the study area, it varied from 78 to 824 mg/l. High sulphate is spatially distributed towards the lower reaches of the Janglewadi Odha micro watershed (W12, W13, W14, and W15). A higher sulphate content zone is seen around W12 and W13. The lowest spatial distribution of sulphate concentrations are seen in the waterlogged areas in and around Pachputewadi and

especially along the dugwells north of Junglewadi (Fig. 2.21). Nitrogen as Nitrate (NO_3), Residual chlorine, and phosphorous (P) are not detected in the groundwater samples from the present study.

The total alkalinity in the ground water from the study area varied from 125 to 695 mg/l. In general, the spatial distribution of the total alkalinity of groundwater from the study area show low to moderate values (Fig. 2.22), except along the Ghod left bank canal where the total alkalinity is considerably high (W18 and W9 to W11).

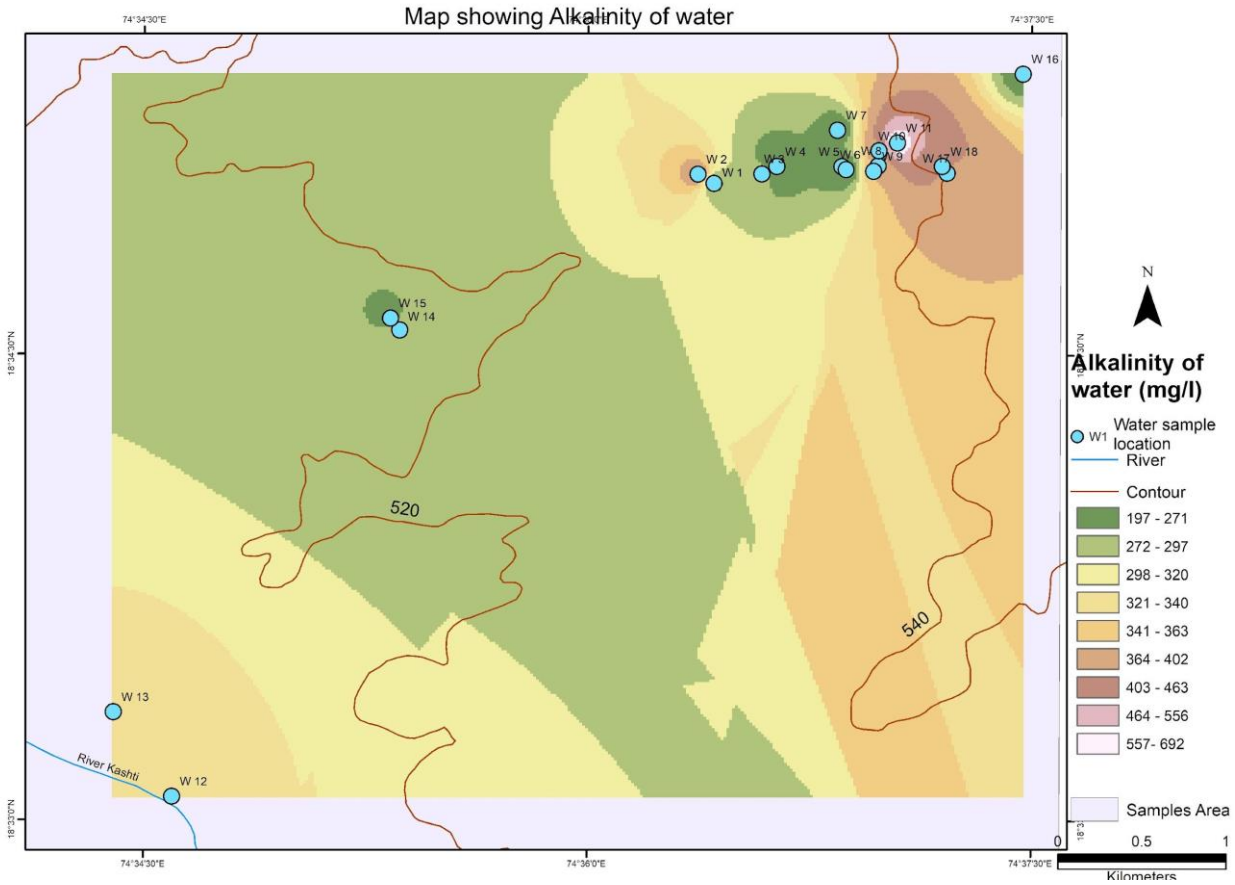


Fig. 2.22: Spatial distribution of Alkanity in the study area

Colour: This test parameter is discussed specifically because the molasses which spread accidentally having dark brown colour. Therefore, parameter color considered important for the study. It was observed that, all collected samples were transparent and having no traces of any colour.

The ground water sample analysis results of the study area indicate that the impact of accidental contamination of molasses on the ground water characteristics of the area could have attenuated naturally. Test parameters of samples from the accident affected area as well as from non-affected places were varied in more or less a same range.

3.0 Soil sampling, analysis and interpretation

In this study, soil sampling was carried out initially at 18 locations. Later, another seven samples were collected and thus total 25 locations/samples. Soil samples were collected on the same day/date as water samples. These samples were collected, handled, stored and transported as per the standard procedures developed by the laboratory. Soil samples were collected and analysed with an objective of assessing the damage due to spread of molasses mainly in the agricultural fields of affected area. Samples were collected from the affected as well as non-affected areas for the purpose of comparison and interpretation. Results of the same are as follows.

Table 3.1: Categorization of zones and details of sample collected form each zone

Sampling Zone	Sample identification /location code	Location/Identification Details
Zone 1	S01 to S07	Samples from molasses spread area; distance in the range of 450 m to 1450 m from accident site
Zone 2	S08 to S12 and S17 to S19	Samples from molasses spread area; located within 400 m from accident site S17 and S18 – locations not affected by the molasses spread but located in the downstream of tanks were molasses was stored after collection from the field S19 is within factory premises – closer to outlet of natural drainage, near molasses tanks.
Zone 3	S13	Samples collected near river Ghod;
Zone 4	S14, S15 and S20 to S25	Samples from affected area beyond 3000 m from accident site
Zone 5	S16	Samples from area where molasses spread not observed

Table 3.2: Geographical location and distance from factory of collected samples

Sample identification/ location code	Distance (aerial distance in m)	Latitude and Longitude
S 01	1247	18°35'4.61"N, 74°36'25.67"E
S 02	1328	18°35'5.10"N, 74°36'22.67"E
S 03	971	18°35'4.41"N, 74°36'35.47"E
S 04	866	18°35'6.19"N, 74°36'38.63"E
S 05	502	18°35'6.68"N, 74°36'51.79"E
S 06	531	18°35'5.63"N, 74°36'51.30"E
S 07	442	18°35'12.77"N, 74°36'51.93"E
S 08	404	18°35'7.19"N, 74°36'55.34"E

S 09	325	18°35'7.33"N, 74°36'58.62"E
S 10	378	18°35'5.22"N, 74°36'58.23"E
S 11	271	18°35'10.01"N, 74°36'58.90"E
S 12	161	18°35'11.01"N, 74°37'2.54"E
S 13	5953	18°33'20.37"N, 74°34'22.64"E
S 14	3325	18°34'35.17"N, 74°35'21.26"E
S 15	3308	18°34'37.71"N, 74°35'20.85"E
S 16	737	18°35'25.25"N, 74°37'29.29"E
S 17	341	18°35'4.66"N, 74°37'13.22"E
S 18	268	18°35'6.89"N, 74°37'11.77"E
S 19	81	18°35'16.56"N, 74°37'5.53"E
S 20	2488	18°34'54.57"N, 74°35'44.65"E
S 21	2608	18°34'53.25"N, 74°35'40.77"E
S 22	2427	18°34'55.72"N, 74°35'46.50"E
S 23	2990	18°34'40.32"N, 74°35'31.41"E
S 24	2928	18°34'42.88"N, 74°35'32.70"E
S 25	2570	18°34'52.36"N, 74°35'41.86"E

Figure 3.1: Soil sampling in the study area and its packing/handling

Sampling zones are more or less same as water sampling zone. Hence, the description of the sampling zone is similar. But, for easy understanding and ready reference it is described here.

Sampling zone 1: Sample identification/Location code S1 to S7

In this area, moderate spread of molasses was observed. This spread was observed mainly in those field/soils, which located along the natural drainages (Junglewadi Odha) carrying molasses. Thus, the soil sampling locations were near to the ground water sampled locations.

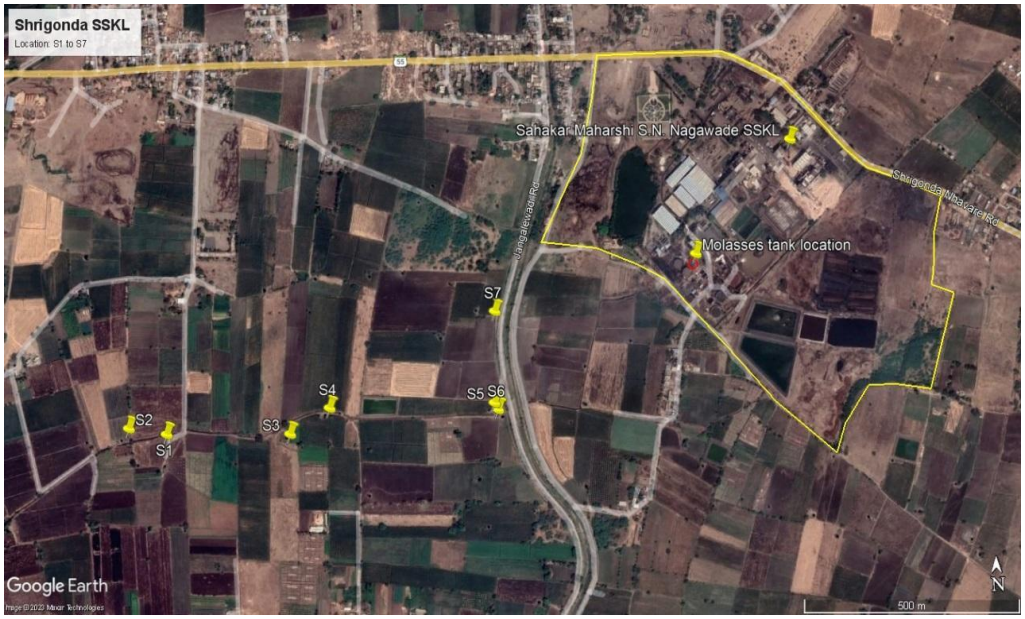


Figure 3.2: Soil sampling zone 1: Sample identification/location code S01 to S07

Figure 3.3A & 3.3B: Soil sampling locations from Zone 2 – sample identification/location code S8 to S12 & S17 to S19

Sampling Zone 2: Locations S08 to S12 and S17 to S19

Soils of this zone were highly affected due to the molasses spread. According to the locals, molasses spread over the soil was observed for a few days after the accident. Later, it was removed by the factory team. On this background, the results of soil sample testing of this zone were considered a very important part of the study.

Sample S 19 was collected from the factory premises. This sample was collected from the accident affected open land inside the factory premises. Samples S17 and S18 were collected outside the premises. Spots were located in the upward side of Junglewadi odha (nala carried molasses after the accident) and thus considered as a non-affected area. But it is in the close vicinity of the factory. Hence, these samples were grouped together under sampling zone 02.

Figure 3.4: Soil sampling zone 3 - Sample identification/location S13

Sampling Zone 03: It represents, only one sample collected near to the river Ghod. It is close to the confluence zone of the Junglewadi odha and the river. The sampling spot was approx. 6 km away from the accident spot. Thus, more or less represents the background characteristics of the soil. In addition, the influence of the river was anticipated on its characteristics. Hence, the sample was collected from this area.

Figure 3.5: Soil sampling locations from Zone 4: Sample identification/location code S14, S15 & S20 to S25

Sampling zone 04: Considering soil contamination due to the accident, soils in this zone was relatively low or very minor affected. In general, the samples are collected at an approx. distance of 3.0 km from the accident site.

Figure 3.6: Soil sampling zone 5 - locations S16

Sampling zone 5: This sample was collected outside the factory premises but from other end – i.e. where no molasses discharge observed at all.

Table 3.3: Analysis results of Soil samples collected from study area

Parameters	Unit	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12
pH at 25°C	---	8.75	8.69	8.90	8.28	8.25	8.60	8.80	7.25	8.39	8.54	8.53	8.59
Electrical Conductivity@25°C	µmhos/cm	752.4	562.4	606.4	593.3	541	393	325.2	2757	1240	492.2	468.2	519.9
Moisture	%	23.85	11.12	16.21	6.6	10.17	6.29	14.35	16.77	31.05	13.92	9.47	11.74
Available Nitrogen	Kg/Ha	119	129	151	176	113	110	107	114	310	132	160	125
Available Phosphorus	Kg/Ha	7.52	7.61	10.07	1.5	9.74	16.34	14.3	12.75	24.41	22.57	0.167	2.25
Available Potassium	Kg/Ha	560	870	234	936	730	127	160	510	540	580	590	500
Organic carbon	%	0.361	0.418	0.932	0.741	0.532	0.437	0.837	0.95	1.0	0.989	0.342	0.818
Organic matter	%	0.623	0.721	1.607	1.279	0.918	0.754	1.443	1.63	1.73	1.705	0.59	1.41
Copper (Cu)	mg/kg	0.975	1.31	1.12	1.08	1.335	1.315	0.59	1	1.8	0.87	1.245	1.26
Manganese (Mn)	mg/kg	11.72	16.6	10.84	9.895	9.495	9.62	7.48	9.9	9.62	12.62	10.31	15.86
Iron (Fe)	mg/kg	492.5	626.05	546	497.5	497.85	542.51	280.1	487	427.3	465.5	367.45	606.2
Zinc (Zn)	mg/kg	0.835	0.94	0.79	0.785	0.91	1.105	0.67	0.71	1.04	0.68	0.805	0.815

Parameters	Unit	S13	S14	S15	S16	S17	S18	S19	S20	S21	S22	S23	S24	S25
pH at 25°C	---	9.12	8.55	8.23	8.4	9.24	8.31	6.46	8.04	7.91	8.07	8.27	8.22	8.24
Electrical Conductivity@25°C	µmhos/cm	525.4	954.1	1466	914.1	313.2	555.8	9574	1678	394.5	272.2	148.2	152	655.7
Moisture	%	10.5	28.5	12.07	9.97	11.86	13.1	12.7	9.3	11.12	23.69	10.35	12	8.86
Available Nitrogen	Kg/Ha	103	163	147	157	141	116	169	248	229	144	154	156	235
Available Phosphorus	Kg/Ha	19.82	23.83	24.23	0.37	3.13	7.81	14.09	0.45	0.083	0.2	0.29	0.32	2.75
Available Potassium	Kg/Ha	520	165	690	540	210	510	580	32	226	239	32.4	38	320
Organic carbon	%	0.627	1.027	0.703	0.799	0.627	0.342	0.97	0.93	0.98	0.85	0.589	0.62	0.65
Organic matter	%	1.082	1.771	1.213	1.377	1.082	0.59	1.67	1.6	1.70	1.47	1.01	0.99	0.84
Copper (Cu)	mg/kg	1.02	0.945	1.525	1.1	1.42	1.02	2.39	0.96	0.98	0.98	1.2	1.21	BDL
Manganese (Mn)	mg/kg	13.54	19.47	14.91	11.33	12.92	13.03	6.065	9.0	8.0	12.0	10.0	11.0	6.0
Iron (Fe)	mg/kg	505	491.3	712.25	600.9	619.5	497.2	461.9	530	620	483	620	560	450
Zinc (Zn)	mg/kg	0.72	0.82	0.985	1.14	0.845	0.75	1.1	0.91	1.12	0.78	0.96	0.98	BDL

3.1 Soil Quality Test Results

1) pH

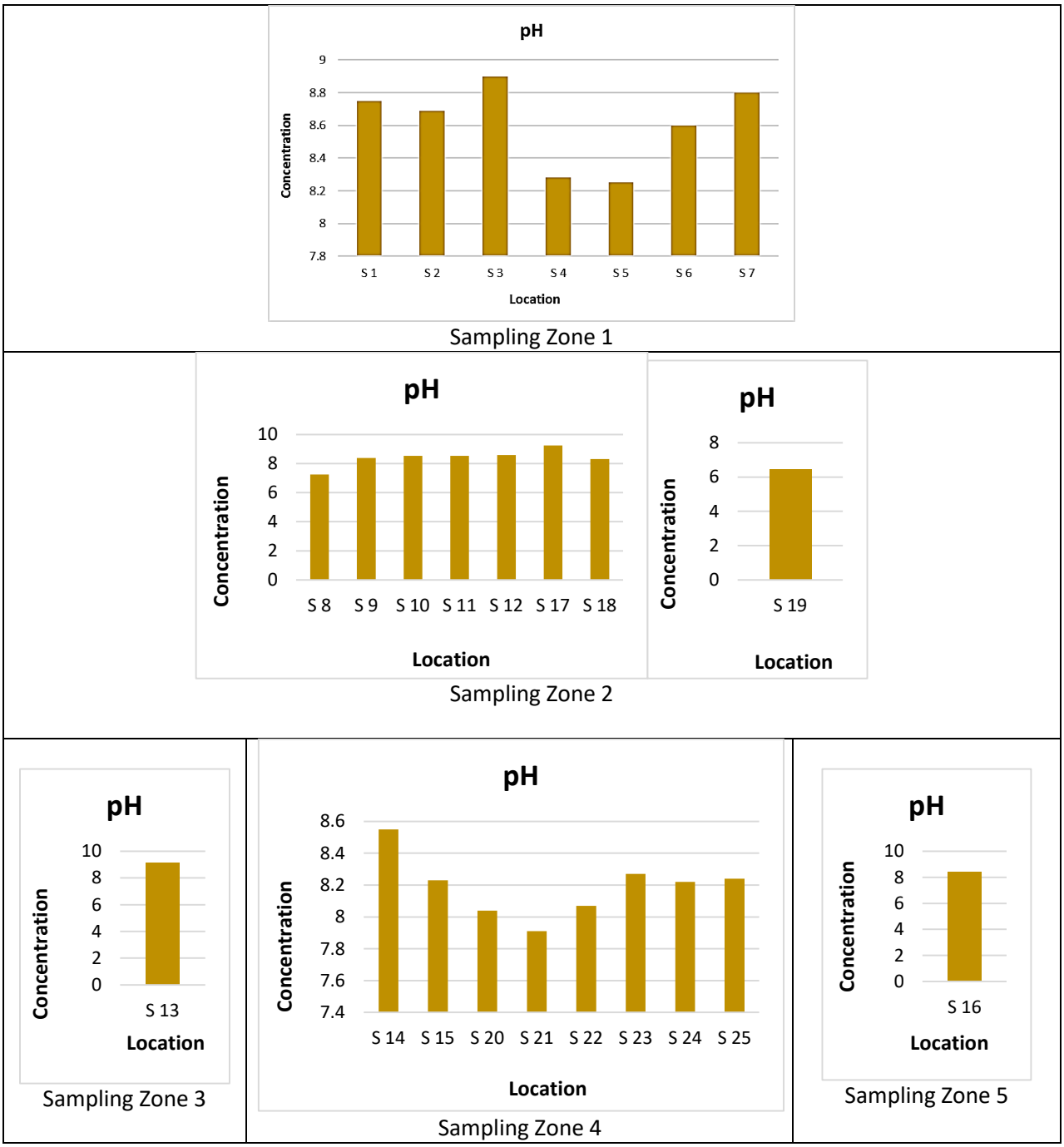


Figure 3.7: Graphical presentation of pH observed for all soil samples of the study area

Soil pH Rating

Sr.No.	Category	Soil pH
1	Very acidic	< 4.5
2	Acidic	4.6- 5.2
3	Moderately acidic	5.3- 6.0
4	Slightly acidic	6.1- 6.5
5	Neutral	6.6- 7.0
6	Slightly alkaline	7.1- 7.5
7	Moderately alkaline	7.6-8.3
8	Alkaline	8.4-9.0
9	Very alkaline	> 9.0

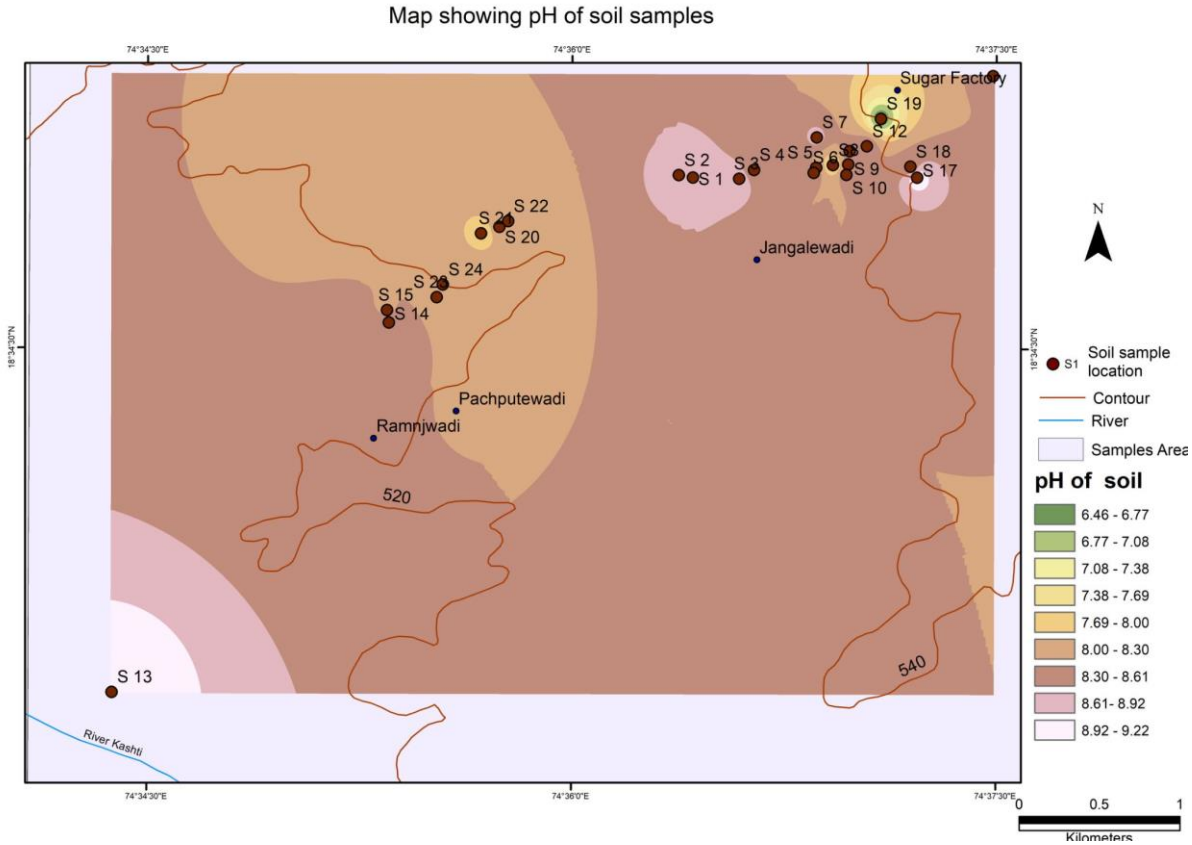


Fig. 3.8: Spatial distribution of pH in the study area

Observation/Interpretation

Results obtained for soil pH were compared to the above chart to understand its categorization. According to the pH values of soil samples from sampling zone 1 and Zone 2 –which was moderate to highly affected due to molasses spread – showed mostly moderately alkaline to alkaline characteristics. Samples from location S4 and S5 had pH of 8.2 and Sample S8 had pH of 7.2 are observed on the lower side. Whereas pH of 8.9 for sample from location S3 and pH of 9.2 (indicating very alkaline nature) for sample S17 observed on the higher side in this zone. Soil characteristic of very alkaline was observed for sample S13 – which collected near river Ghod. Soil sample collected from location S16 – which was from a non-affected area – showed alkaline characteristics with pH value of 8.4. Test values for pH of soil samples from the study area outside the premises show no influence of acidic pH of molasses.

2) Electrical conductivity of soil

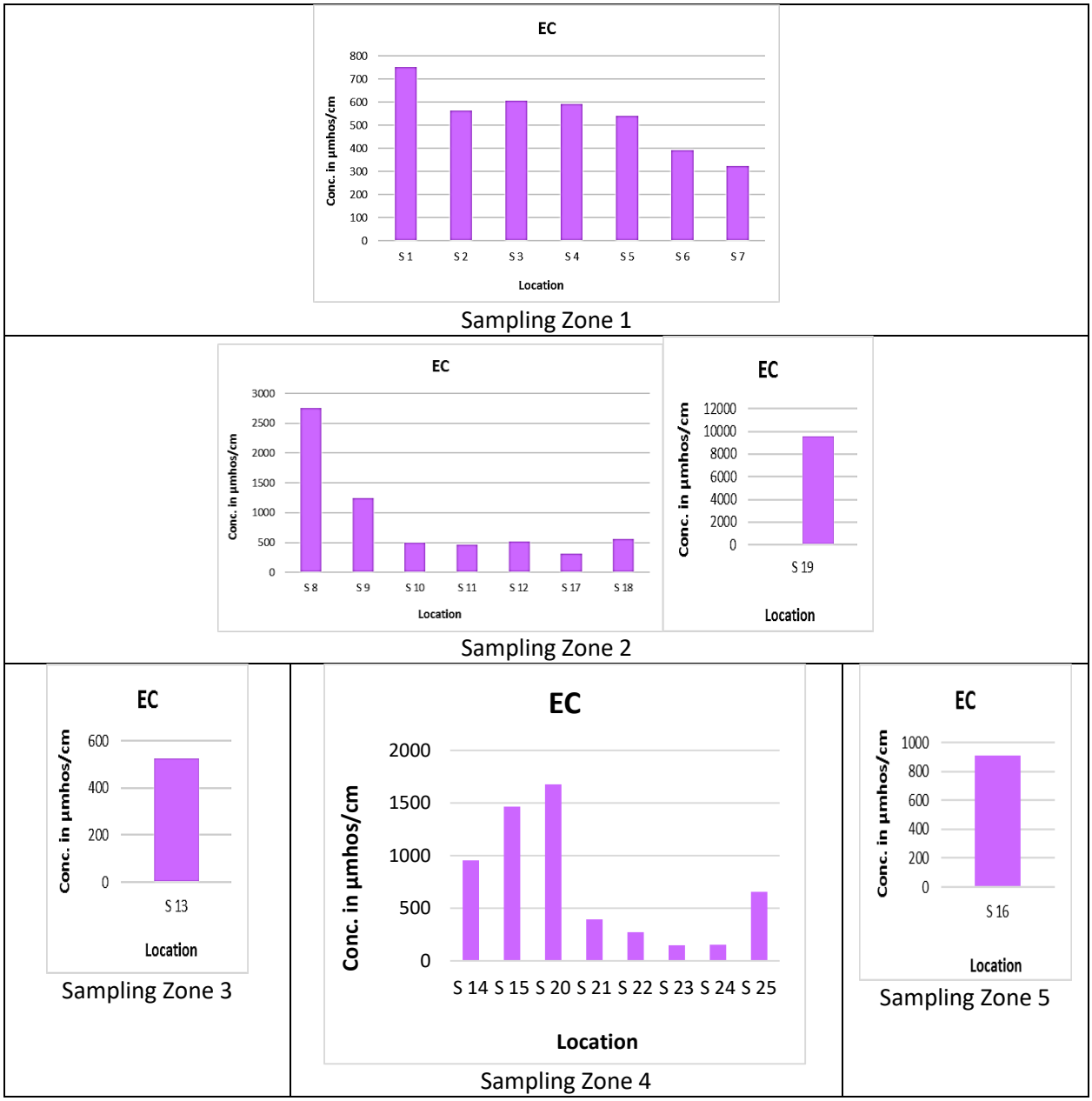


Figure 3.9: Graphical presentation of EC observed for all soil samples of the study area

1000 micro mho/cm = 1 mili mho/cm

Electrical Conductivity of Soil:-

Sr.No.	Category	EC of soil mili ohm/ dSm^{-1}
1	Good soil	Below 1
2	Poor seed emergence	1 - 2
3	Harmful for some crops like pulses	2 - 3
4	Harmful for most of crops	Above 3

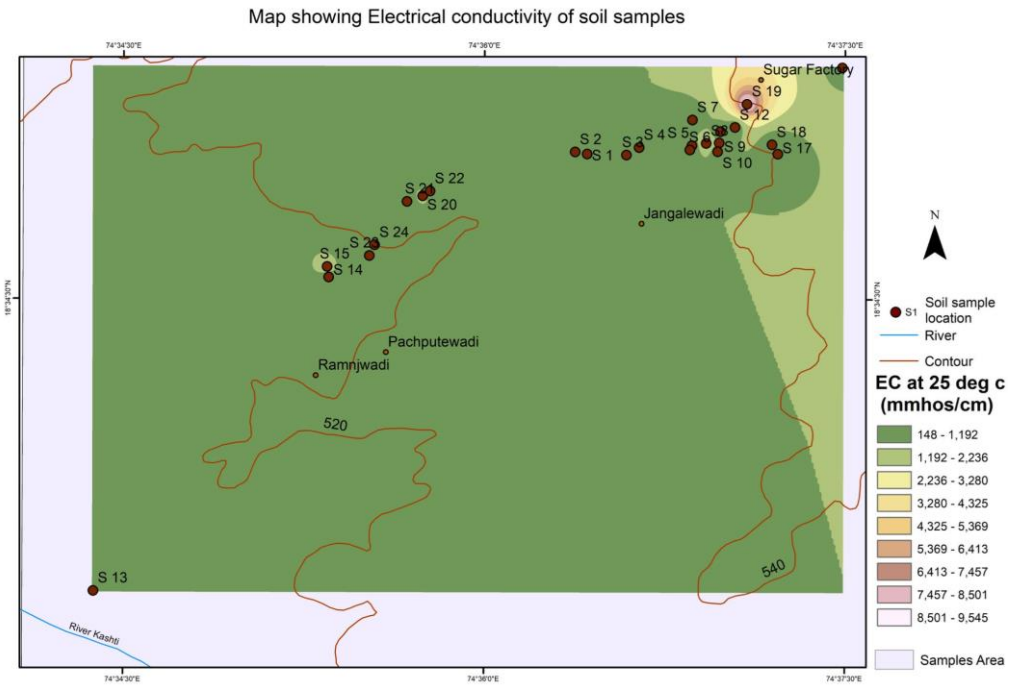
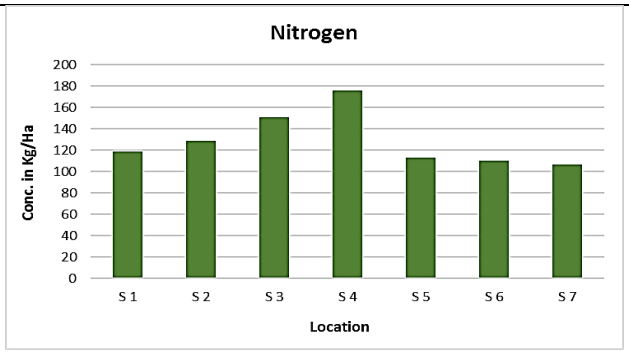


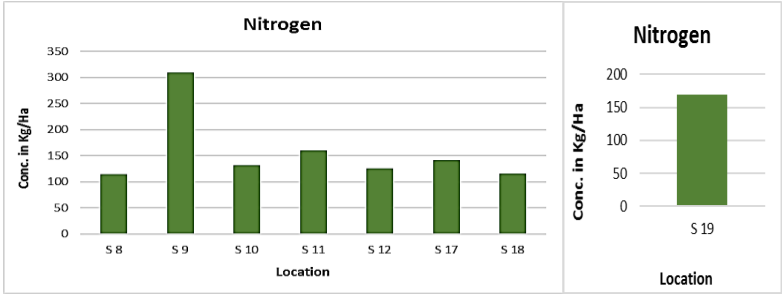
Fig. 3.10: Spatial distribution of EC in the study area

The test results of zone 1 and zone 2 samples show mostly good soil characteristics for electrical conductivity parameter, except for location S-8. Here, the EC was reported 2.7 mili mho/cm which is harmful for some crops like pulses. In zone 4, EC more than 1.4 mili mho/cm and 1.6 mili mho/cm was reported for location S15 and S20. It can be observed from the test results of EC of soils that there is no impact of accidental release of molasses.

3) Nitrogen



Sampling Zone 1



Sampling Zone 2

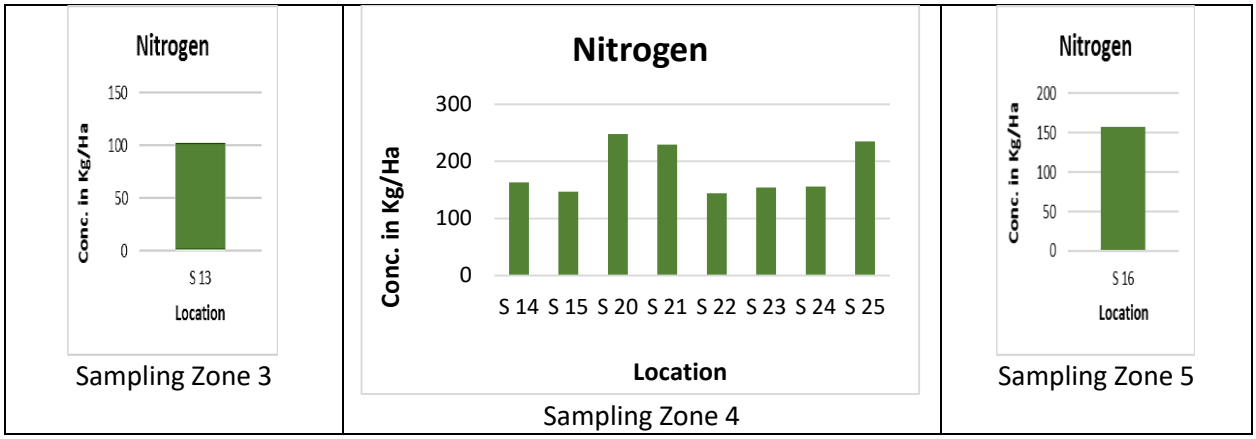


Figure 3.11: Graphical presentation of Nitrogen observed for all soil samples of the study area

Soil available Nitrogen (kg/ha)

Sr. No.	Category	Soil available Nitrogen(kg/ha)
1	Very low	< 140
2	Low	141 - 280
3	Moderate	281 - 420
4	Moderately high	421 - 560
5	High	561 - 700
6	Very high	> 700

Map showing Nitrogen content of soil samples

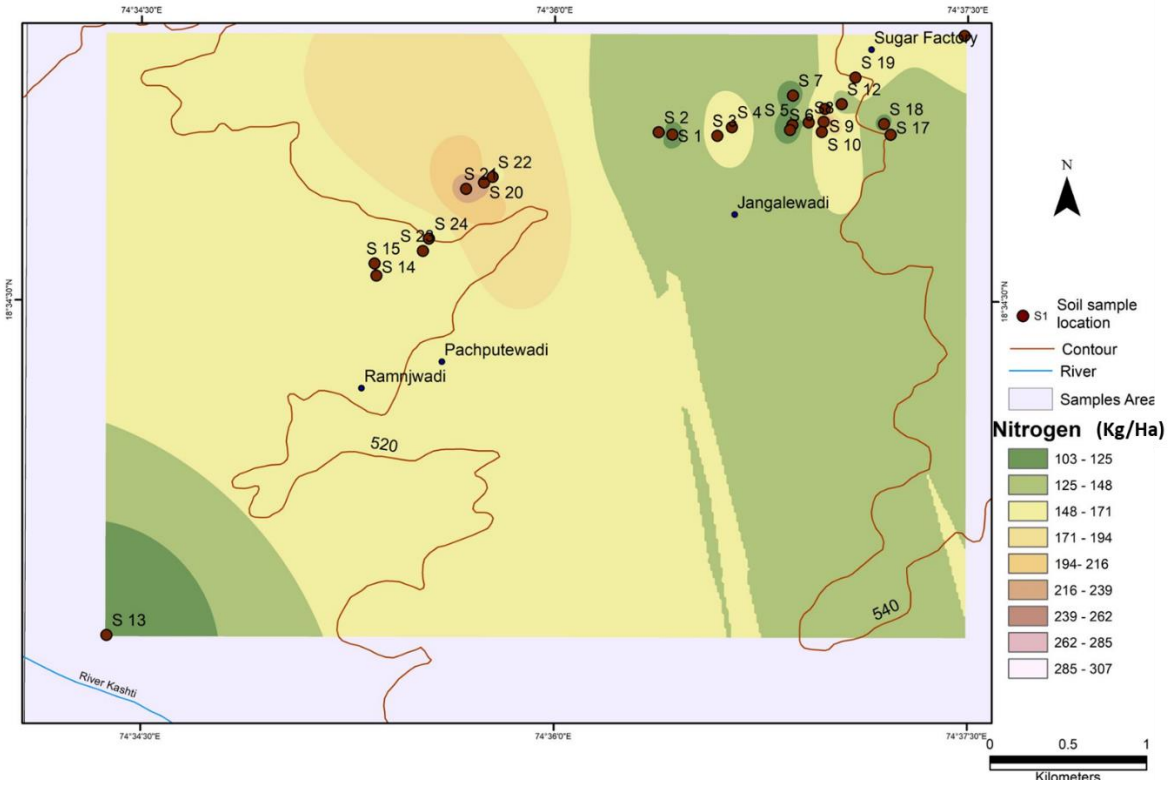


Fig. 3.12: Spatial distribution of Nitrogen in the study area

Observations

In general, the soil samples of study area show very low to low nitrogen content. Particularly, soils from sampling zone 1 and zone 2 which is affected by the accidental release of molasses show typically the above stated characteristics. Sample from location S-09, the only sample reported moderate nature of nitrogen content. From molasses analysis (table 1.1), the amount of nitrogen released due to accident was about 7.5 to 9.0 kg/ton of molasses. Considering average 8.25 kg/ton, approx. 31 to 32 tons of nitrogen was released through molasses. Therefore, a positive impact i.e. soil nitrogen content on higher side for accident affected areas was anticipated. However, all soil samples from the study area show nitrogen deficiency. It can be inferred that presently, there is no impact of accident on inorganic content of soil.

4) Phosphorous

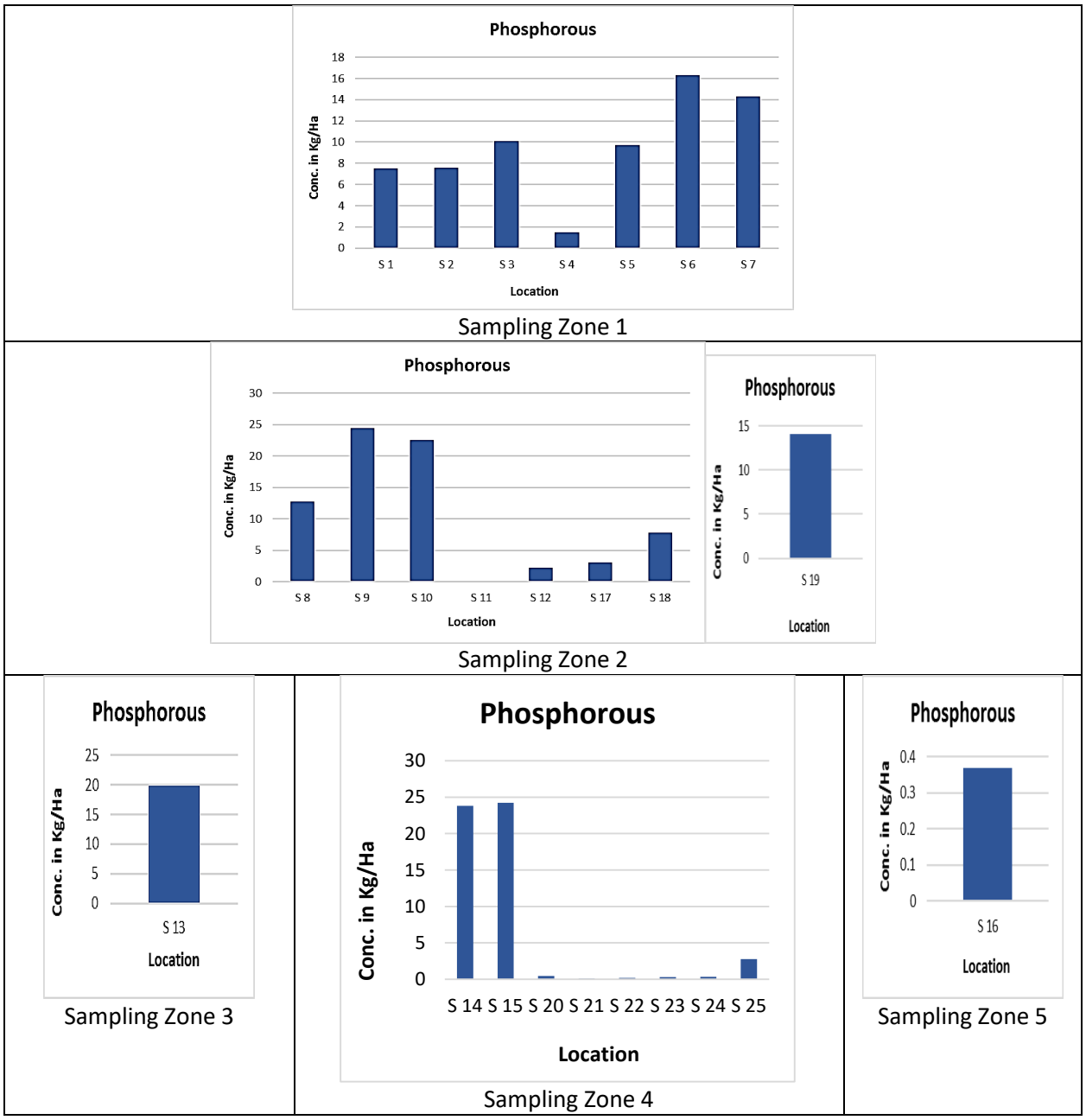


Figure 3.13: Graphical presentation of Phosphorous observed for all soil samples of the study area

Soil available Phosphorous(P) kg / ha

Sr.No.	Category	Soil available Phosphorous (kg / ha)
1	Very low	0 -7
2	Low	7 –14
3	Moderate	14 –21
4	Moderately high	21 –28
5	High	26 –35
6	Very High	More than 35

Observations

In case of phosphorous (P) it was observed that, out of 24 samples, 11 samples showed very low P content. Samples collected from location S06 and S07, show moderate levels of phosphorous. Sample collected from locations S09, S10, S14 and S15 reported moderately high levels of phosphorous.

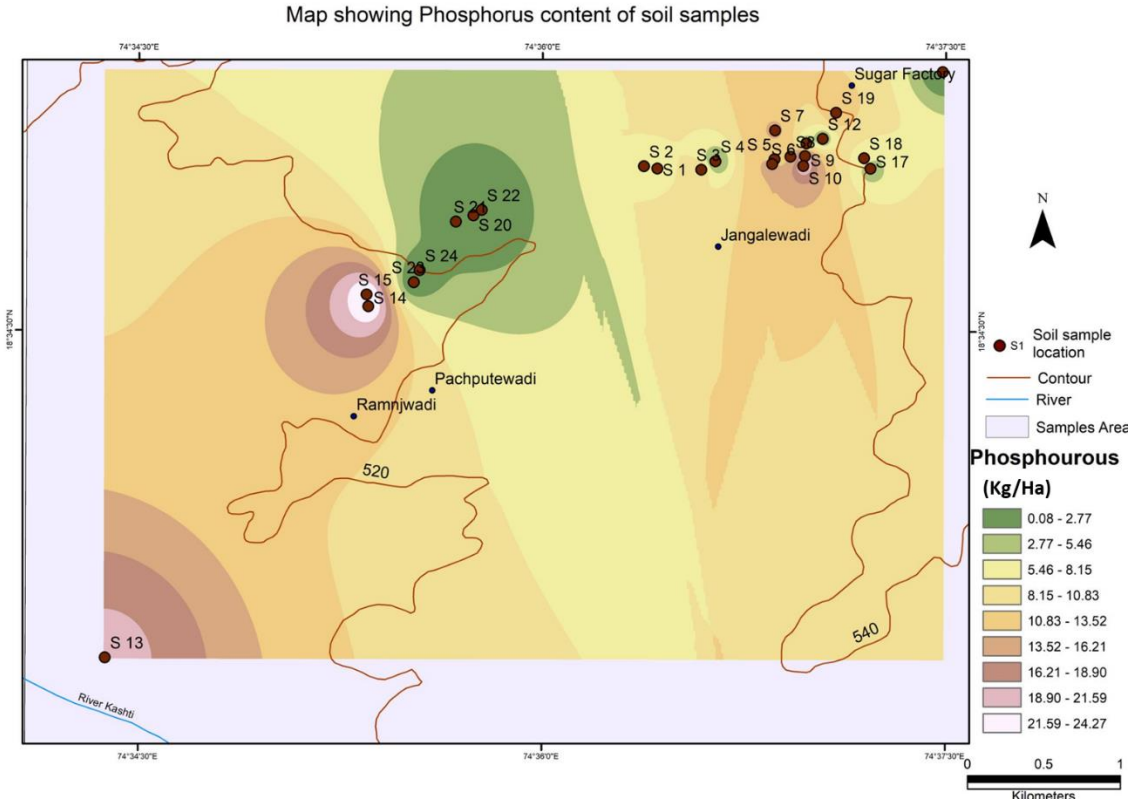


Fig. 3.14: Spatial distribution of Phosphorous in the study area

5) Potassium

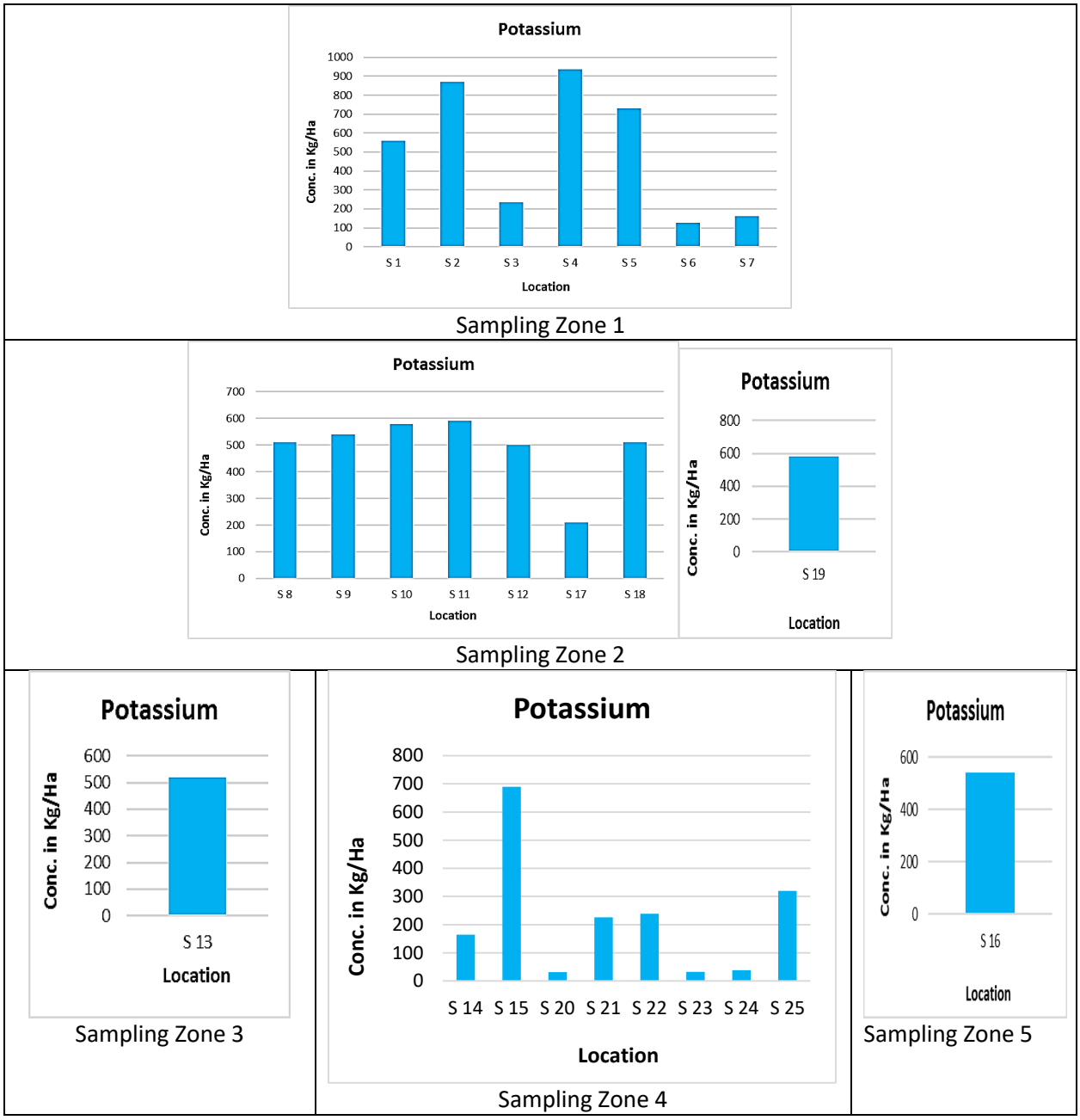


Figure 3.15: Graphical presentation of Potassium observed for all soil samples of the study area

Soil available (K) Potash, Kg/ha.

Sr.No.	Category	Available K Kg/ha.
1	Very Low	< 100
2	Low	101 - 150
3	Medium	151 - 200
4	Moderately High	201 – 250
5	High	251 - 300
6	Very high	> 300

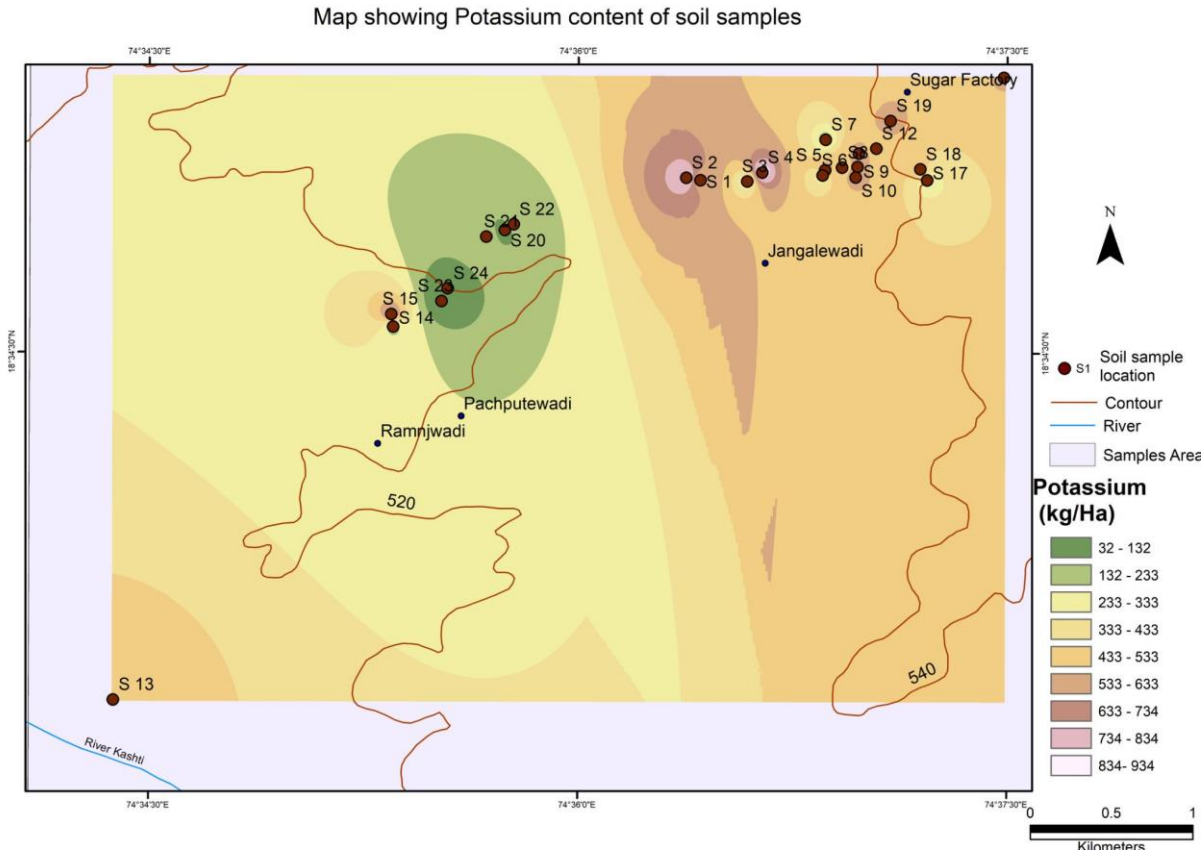
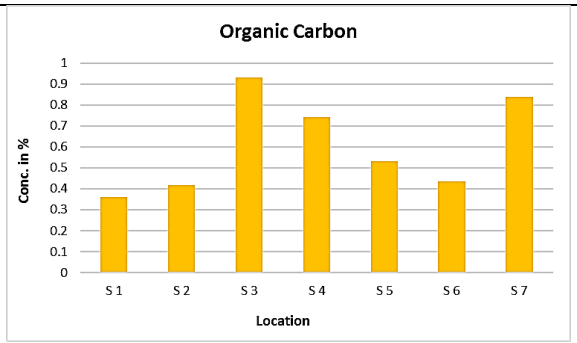


Fig. 3.16: Spatial distribution of Potassium in the study area

Observations

From sampling zone 1 and zone 2, out of 15 samples 11 samples reported to have very high levels of potassium content. Similar tend observed for sample collected from non-affected areas (S16) and for sample collected near the river (S13).

5) Organic carbon



Sampling Zone 1

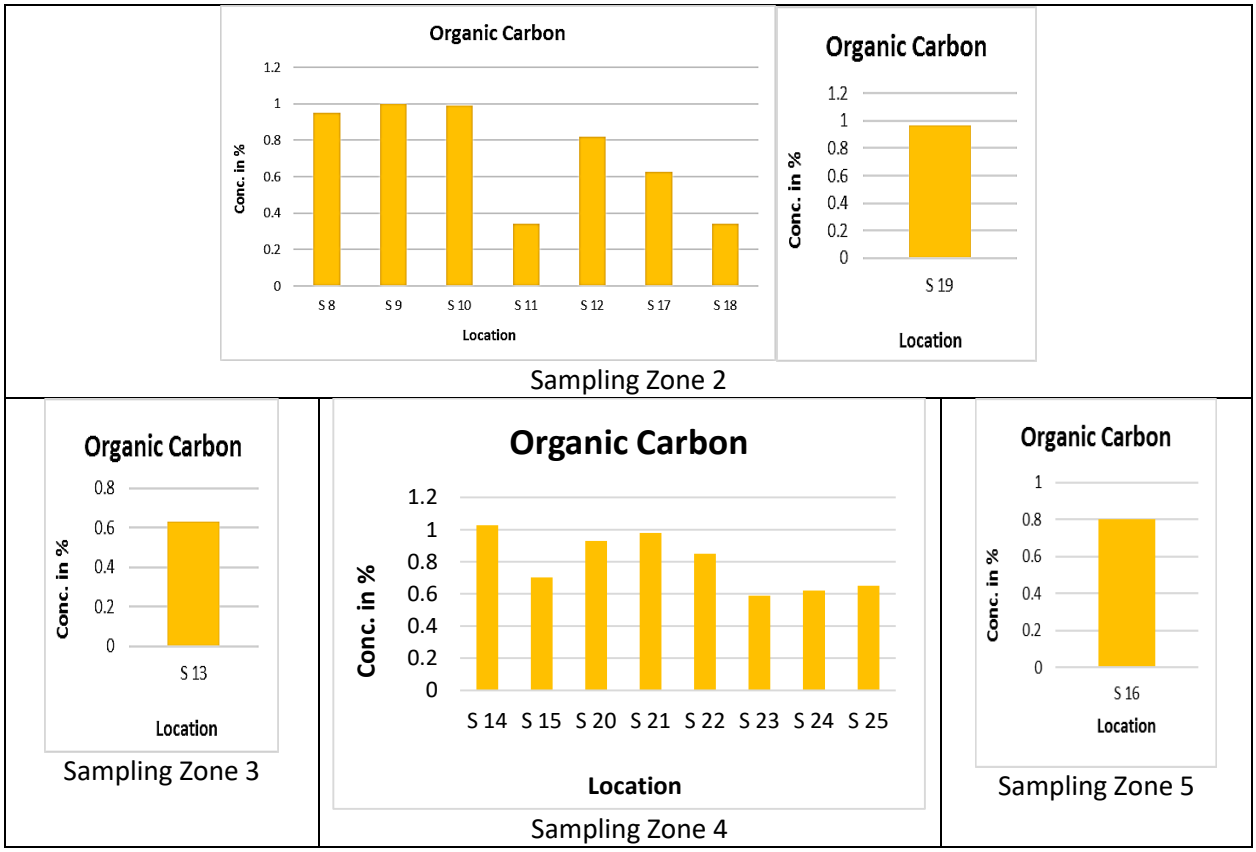
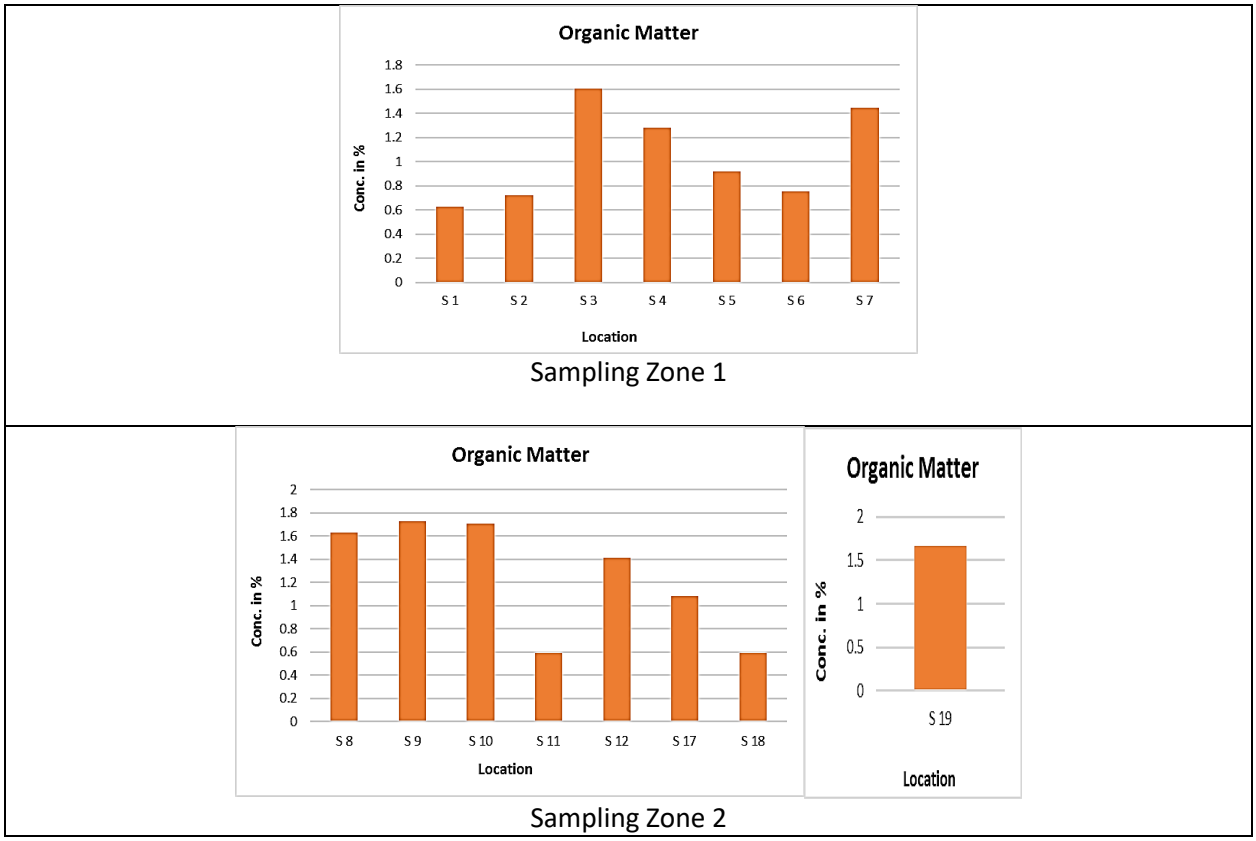


Figure 3.17: Graphical presentation of Organic carbon observed for all soil samples of the study area

5) Organic matter



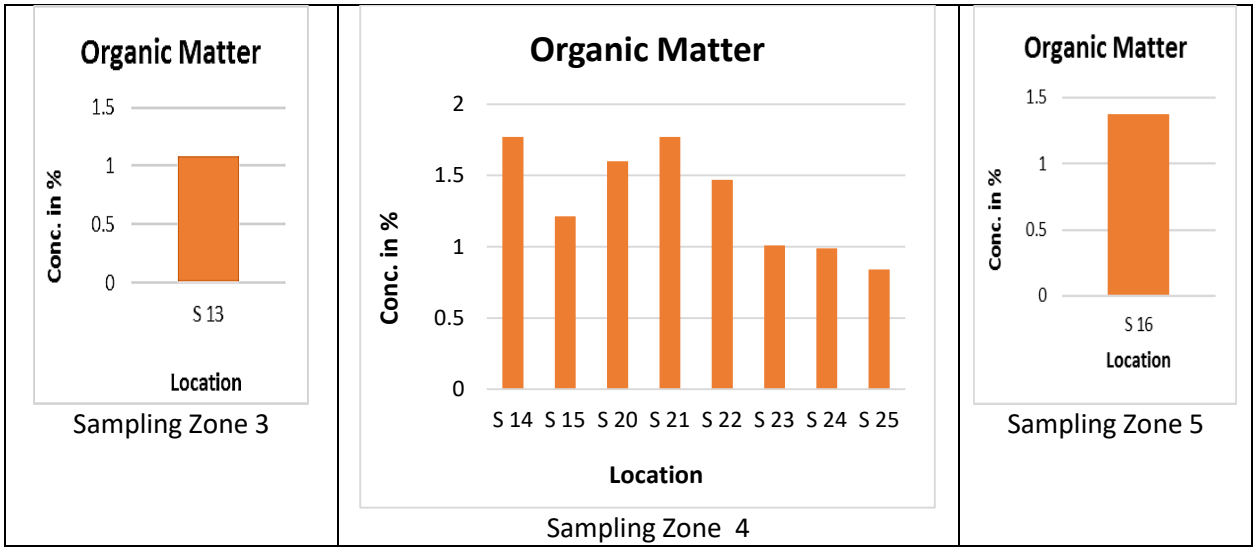


Figure 3.18: Graphical presentation of Organic matter observed for all soil samples of the study area

% Organic carbon :

Sr. No.	Category	% Organic carbon
1	Very low	Less than 0.20
2	Low	0.21 - 0.40
3	Moderate	0.41 - 0.60
4	Moderately high	0.61 - 0.80
5	High	0.81 - 1.00
6	Very high	Greater than 1.00

Map showing Organic carbon content of soil samples

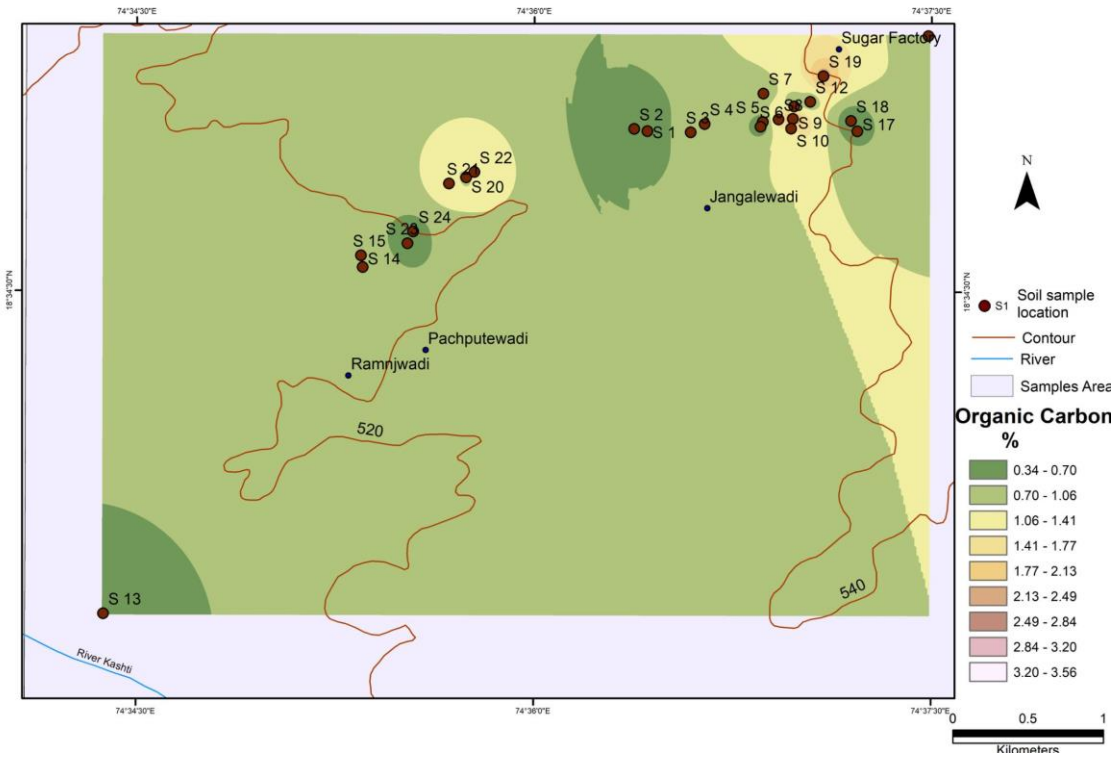


Fig. 3.19: Spatial distribution of Organic carbon in the study area

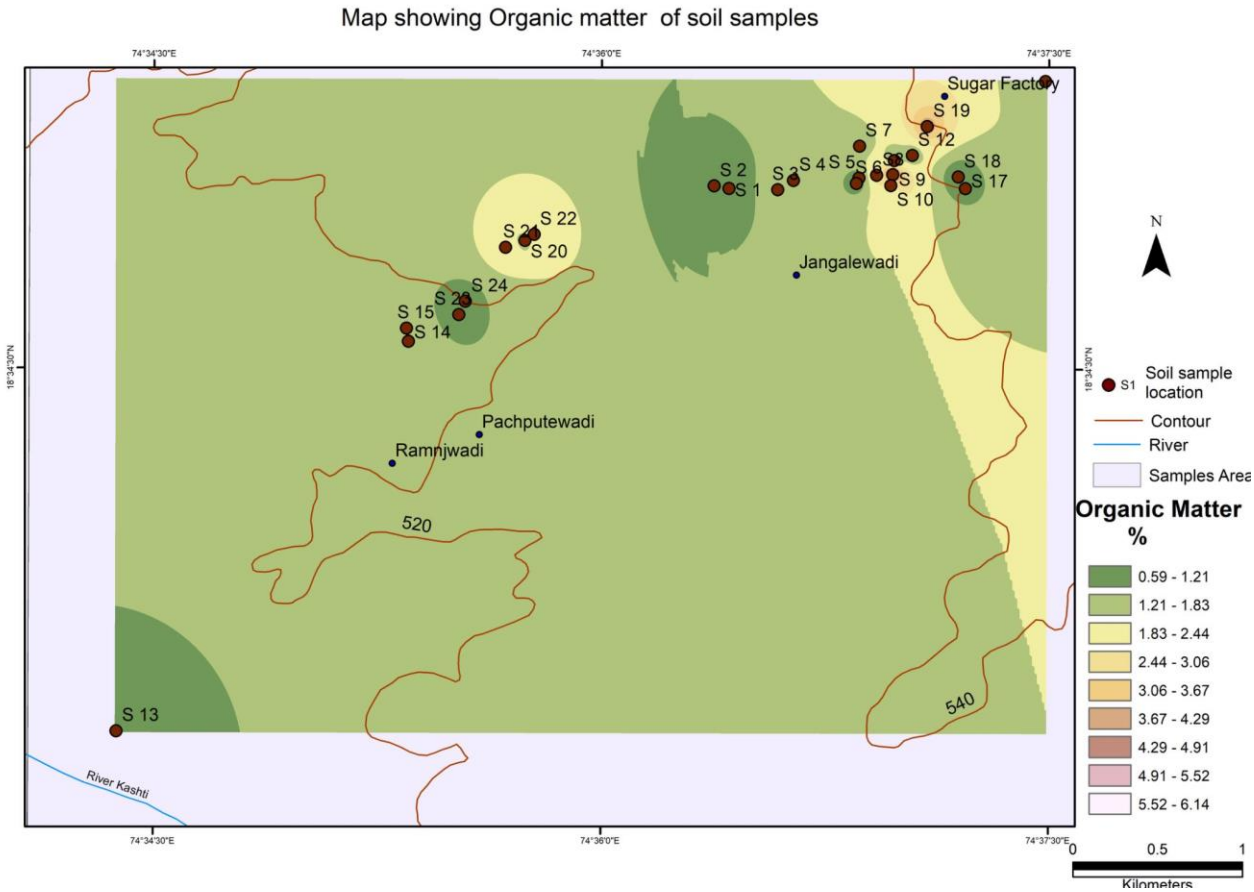


Fig. 3.20: Spatial distribution of Organic matter in the study area

Observations

Soil organic carbon greater than 0.61% upto 1% is considered as moderately high and high. In case of zone 1 and 2, out of 15 samples, 09 samples reported moderately high and high levels. Similar tend observed for sample collected from non-affected areas (S16) and for sample collected near the river (S13).

Soil organic matter (OM) is determined by equation: OM = organic carbon x 1.724

Since, OM value is totally dependent on soil organic carbon. separate comment on the OM is not considered here.

Overall, the soil analysis results show similar trend as ground water analysis. It means, the impact due to accidental contamination of the resources (water and soil) is probably 27remediated naturally. The soil samples collected from accident contaminated/affected areas and non- affected areas show more or less similar characteristics. Therefore, present status of soils of the study area show no traces of molasses contamination as such. It may be due to effective scrapping action taken by the factory management immediately after the accident. In this action, molasses from contaminated soil and other surfaces was scrapped with bagasse, removed mechanically and transferred to the compost yard of the distillery unit.

4.0 Geological and Geo-Hydrological Investigations

The following was the scope of work:

- Entire stretch of the proposed area and small sections exposed were observed to understand geological conditions.
- Observations were made in the entire area to infer the role of local geological, geomorphological and climatological factors leading to weathering of the rock.
- Electrical Resistivity Surveys were conducted to infer subsurface geological conditions in general and thickness / depth of different layers in particular besides geotechnical strata classification for estimating the extent and thickness of different layers.

4.1 Scope of the work:

The Hydrogeological investigations were undertaken by adopting Electrical Resistivity Method. The main objectives of these investigations were to:

1. Attempt geo-technical strata classification by using resistivity method
2. To delineate the areas suitable for rainwater harvesting
3. locating the site for bore hole
4. delineate the groundwater table

   The results of the electrical resistivity surveys along with the strata classification and aquifer conditions are included in this report.

   In order to understand the hydrogeological the investigations were conducted in two parts, viz. (A) Hydrogeological and (b) Geophysical (Electrical Resistivity). The outcome of the investigations is discussed in the present report.

(A) HYDROGEOLOGICAL

(i) Climate and Rainfall:

The climate of the district is characterised by a hot summer and general dryness throughout the year except during the southwest monsoon season, i.e, June to September. The mean minimum temperature is 12.3°C and mean maximum temperature is 39.1°C. 4 The normal rainfall over the district varies from 484 mm to about 879 mm. Rainfall is minimum in the northern parts of the district around Kopargaon and Sangamner and it gradually increases towards southeast and reaches the maximum around Jamkhed. The district being situated in “Rain Shadow” zone of Western Ghats, it often suffers the drought conditions. Almost entire district covering Ahmadnagar, Rahuri , Nevasa, Shevgaon, Jamkhed, Karjat, Srigonda, Pathardi and Parner talukas comes under “Drought Area”. The average rainfall for the period 1995-2004 ranges from 484 mm (Kopargaon) to 879.43 mm (Akola) and the same is presented in Table-3. It is noticed that the average annual rainfall has decreased during the last 10 years period as compared to the normal annual rainfall.

(ii) Geomorphology:

Physiographically the district forms part of Deccan Plateau. Part of Sahayadri hill ranges fall in the district. Western Ghat section in Akole taluka is hilly which extends to relatively flat areas in Shevgaon and Jamkhed talukas in the east. From the main Sahayadri range three spurs namely Kalsubai, Baleshwar and Harishchandgad strech eastwards. Physiographically the district can be broadly divided in four major characteristic landforms viz., hill and ghat section (7.6% area); foothill zone (19.4% area); plateau (3.71% area) and plains (occupy 69.30% area). The district lies partly in Godavari basin and partly in Bhima basin. The northern part of the district is drained by Godavari River and its tributaries viz., Pravara, Mula, Adula and Mahalungi whereas the southern part is drained by Bhima River and its tributaries viz., Ghod and Sina. All the rivers have sub parallel to semi-dendritic drainage pattern and the drainage density is quite high. Based on geomorphological setting and drainage pattern, the district is divided into 80 watersheds

(iii) Hydrogeology

The major part of the district is underlain by the basaltic lava flows, which were formed by the intermittent fissure type eruptions during of upper Cretaceous to lower Eocene age. The Deccan Trap has succession of 19 major flows in the elevation range of 420 to 730 m above mean sea level (amsl). These flows are characterised by the prominent units of vesicular and massive Basalt. The Alluvium of Recent age also occurs as narrow stretch along the course of major rivers deposited over the Traps. A map depicting the hydrogeological features is shown in Figure 4.1.

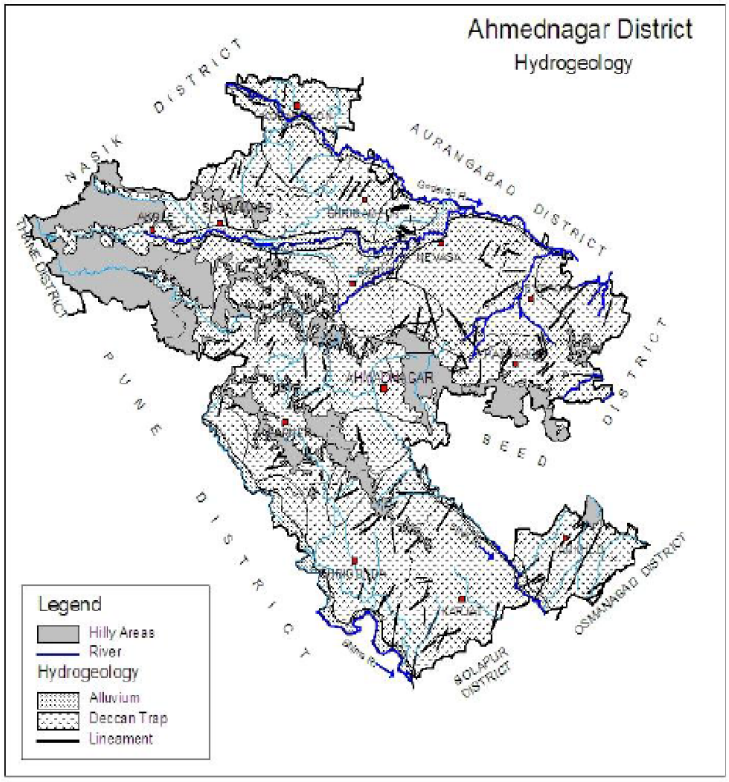


Fig. 4.1: Hydrogeological features of Ahmednagar district

(iv) Geology

Deccan Traps

Deccan Traps occupy about 95% area of the district and it occurs as basaltic lava flows which are normally horizontally disposed over a wide stretch and give rise to table-land type of topography also known as plateau. These flows occur in layered sequence ranging in thickness from 15 to 50 m. Flows are represented by massive portion at bottom and vesicular portion at top and are separated from each other by marker bed known as bole bed. The thickness of weathering varies widely in the district form 5 to 25 m bgl. The weathered and fractured trap occurring in topographic lows form the main aquifer in the district. The ground water occurs under phreatic, semi-confined and confined conditions. Generally the shallower zones down to the depth of 20 m bgl form phreatic aquifer. The water bearing zones occurring between the depths of 20 and 40 m are weathered interflow or shear zones and yield water under semiconfined conditions. Deeper semi-confined to confined aquifers occur below the depth of 40 m as the borewells drilled have shown presence of fractured zones at deeper depths at places. The vesicular portion of different lava flows varies in thickness from 8 to 10 m and forms the potential aquifer zones. However the nature and density of vesicles, their distribution, inter-connection, depth of weathering and topography of the area are the decisive factors for occurrence and movement of ground water in vesicular units. The massive portion of basaltic flows are devoid of water, but when it is weathered, fractured, jointed or contain weaker zones ground water occurs in it. The yield of the dugwells ranges from 2 to 3655 lpm, whereas that of borewells ranges from 500 lph to about 20000 lph when favourably located.

Alluvium

Alluvium occurs in small areas along banks and flood plains of major rivers like Godavari, Pravara, Mula rivers and their tributaries. In the Alluvium the coarse grained detrital material like sand and gravel usually occurring as lenses forms good aquifer. The ground water occurs in phreatic aquifer under water table conditions in flood plain Alluvium deposits near the river banks. Confined conditions are also found wherever the thick clay deposits confine the ground water below it. From CGWB exploration in Godavari-Pravara Alluvium it is observed that the thickness of Alluvium is less than 30 m and the aquifer thickness is limited to 3m. The yield of the dugwells ranges from about 1 to 53 6 lps, whereas in shallow tubewells it ranges form 0.08 to 7.14 lps

(B) GEOPHYSICAL STUDY

In order to study the overall sub-surface geological conditions of the area, Geophysical investigations (Electrical Resistivity Surveys) were carried out. This was to understand the overall spread of sub-surface geological formations in the entire area. From the Electrical Resistivity Surveys, Electrical Resistivity Method (IS: 1892-1979 Appendix B clause 3.3 B-2):

4.2 Methodology

4.2.1 Electrical Resistivity Method (IS: 1892-1979 Appendix B clause 3.3 B-2)

By applying this method, the resistance to the flow of an electric current through the subsurface materials is measured at intervals on the ground surface. The resistivity is usually defined as the resistance between opposite phases of a unit cube of the material. Each material has its own resistivity depending upon the water content, compaction and composition. The test is conducted by driving four metal spikes to serve as electrodes in to the ground along a straight line at equal distances. A direct voltage is imposed between the two outer potentiometer electrodes and the potential drop is measured between the inner electrodes. To interpret the resistivity data for knowing the nature and distribution of the subsurface formations, it is necessary to make preliminary trial on known formations. The potential 'V' thus obtained divided by the current 'I' applied gives the resistance 'R' of the ground. The product of the resistance and the spacing factor, which is depending upon the disposition of the electrodes, is the resistivity of the ground. This method is routinely used for:

1. Determining the sub-surface strata classification
2. Determination of hard rock foundation
3. Estimation of overburden thickness and hard rock quantities and
4. Determination of the suitability of the area for quarrying and excavation

A great variety of electrode arrangements have been used to measure the earth resistivity but essentially they may be grouped into three classes.

Arrangements in which -

- the potential differences between two widely spaced measuring electrodes are recorded.
- The potential gradient or electric field intensity is measured using closely spaced pair of measuring electrodes.
- the curvature of the potential function is measured using a closely spaced current electrode pair as well as a closely spaced measuring electrode pair.

Any one of these arrays may be used to study variations in resistivity with depth or in lateral condition. In studying the variation of resistivity with depth, as in the case of a layered medium the spacing between the various electrodes is gradually increased. With larger spacing, the effect of material at depth on the measurements becomes more pronounced.

In studying the lateral as well as vertical variations, various electrode configurations are adopted and the array is moved as a whole along a traverse line. The first type of measurement is called as 'Vertical Electrical Sounding' (VES) and the second one is 'Horizontal Profiling' (HP). In the present work both VES and HP were conducted at 6 different locations at the site. The L sections generated on the basis of values of

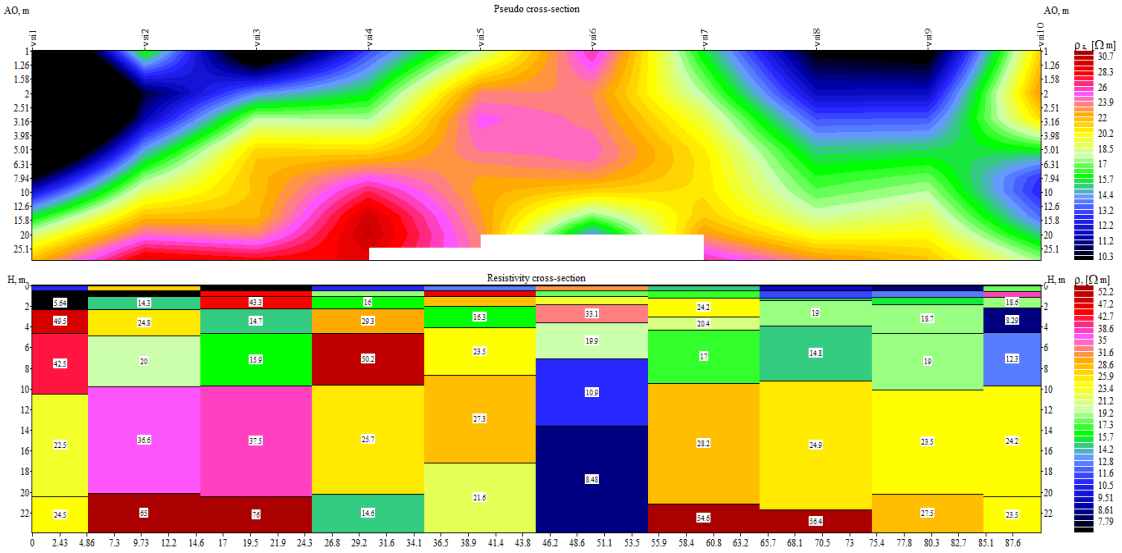
electrical resistivity for the site have been used to depict 2-D subsurface images of the strata that are also included in this report.

4.3 Results and data processing

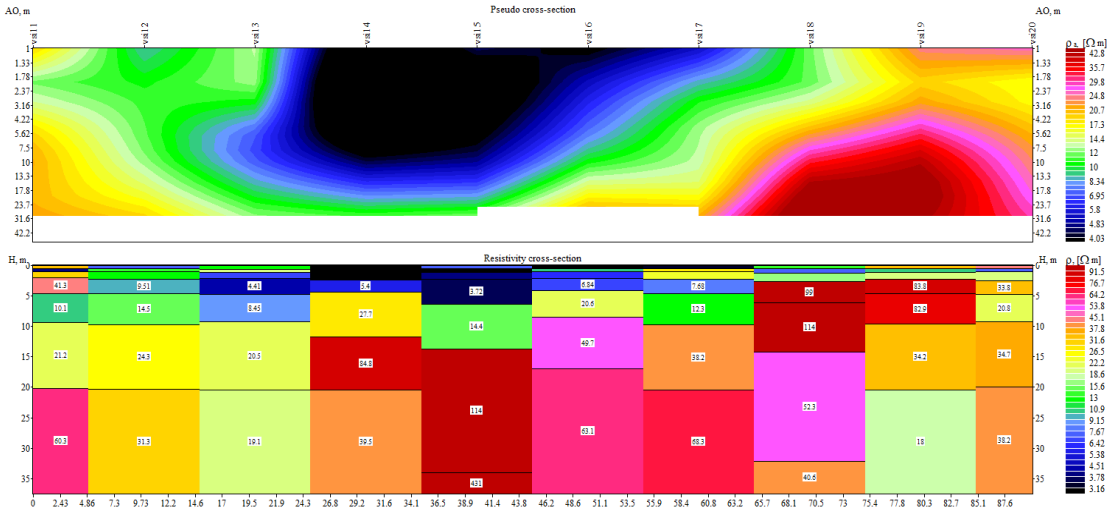
In the area to understand the shallow subsurface geological and aquifer conditions extending up to 70-90 meters depth, vertical electrical soundings were conducted at 30 different locations. Using IPI2 WINDOW based software the data obtained from field was processed. This software helps in interactive semi-automated interpretation of the field data. All the sounding data were modeled for the existing sections. The VES data on apparent resistivity values was modeled by using IPI2 WINDOW based software to get different layers depicting their thickness, depth and true resistivity (see appendix I). In nutshell, the above interpretation gives generalized geological situation with depth-wise variations. As discussed above the sounding points with typical curves at selected sites give point information, which was further utilized to build comprehensive picture of subsurface geological situation depth-wise by preparing 2-D geoelectrical sections.

4.3.1 Profiles

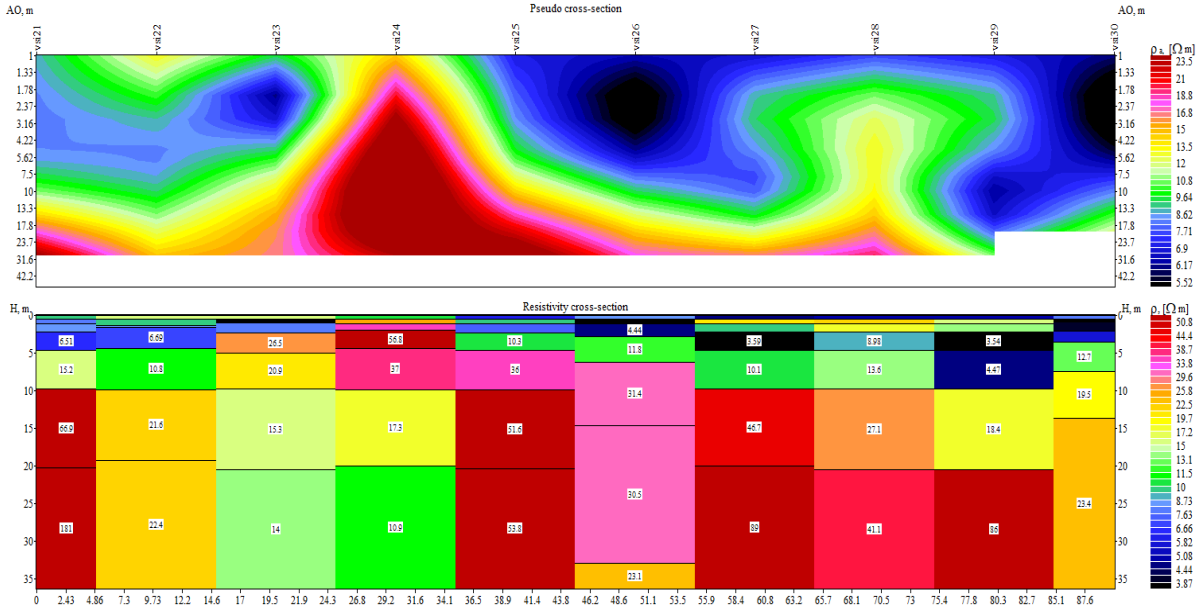
1-10



11-20



21-30



The geoelectrical cross-sections passing through various points have been presented in the above figures. It is to be noted that these are apparent resistivity L sections, which broadly match the true resistivity of formations. The values of true resistivity have been computed and thickness, depth and true resistivity have been presented in appendix. Using IPI2 software, the values of true resistivity of strata (ρ), its thickness (h) and depth (d) have been obtained after modeling of data and are depicted in table form besides each curve.

Based on the resistivity modeled values it can be seen that the area shows presence of shallow to deep aquifer beyond 5 meters at VES locations of 1,to 4 upto 20 meters depth. VES locations 5, 6, 7 shows increasing resistivity values up to 5 meters and then drop which continues up to 20 meters. VES 7, 8, 9, 10 show low resistivity upto 25 meters. The VES location from 11 to 18 shows low resistivity values up to a

depth of 30 meters while VES 19 and 20 shows slightly higher values beyond the depth of 7.5 meters. The VES profile between VES 21 and 30 barring VES 24 shows consistently lower values up to the depth of 30 meters.

Some salient characteristics of occurrence of ground water in hard rock are listed below:

Features of Occurrence of Ground Water in Hard Rocks are:

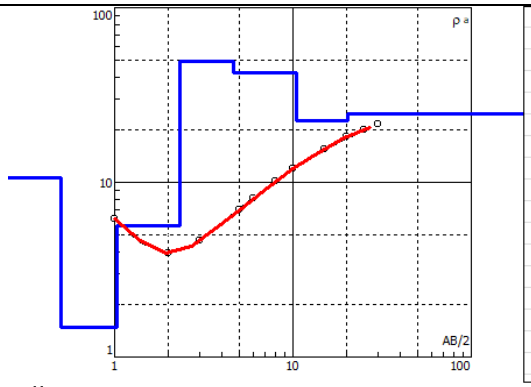
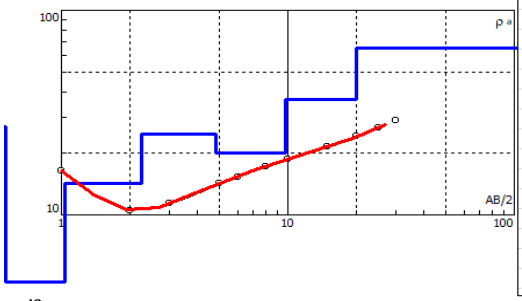
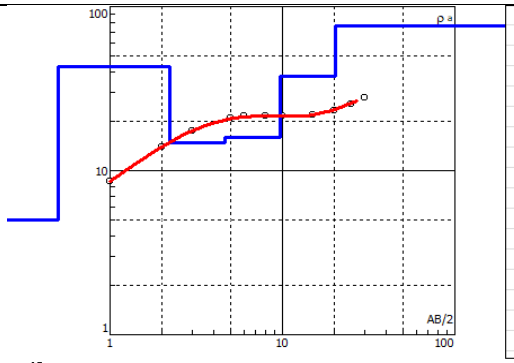
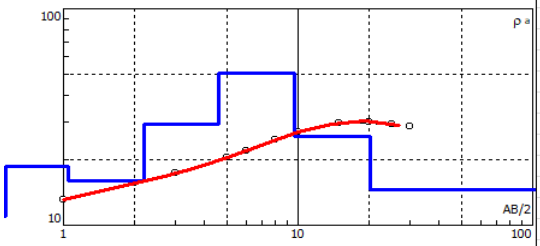
1. Ground water reservoir (aquifer) in hard rocks is dominantly shallow
2. The bulk of the ground water is stored in the zone of weathering (Vadose zone)
3. Fractures and joints in hard rock occur as conduits for rapid transport of water as they do not provide large space for storage of ground water
4. The width of fractures & lineaments and weak planes narrows as depth increases
5. Fairly limited aquifer water yield by wells and bore wells in comparison to alluvial and sedimentary rock aquifer wells
6. Unpredictable ground water occurrence over short distances

The principle ground water reservoir in hard rocks therefore consists of two parts viz.

1. “Vadose zone” or unsaturated zone that lie between ground surface and water table; and
2. The phreatic or unconfined zone that lie below the water table

The deeper ground water below water table in zone of fractures lack substantial storage unless it is connected with thick vadose zone above or else is connected to a surface water source. Exclusively from the issue of ground water storage, the “vadose zone” in hard rocks is extremely important, because the pore spaces in this domain undergo re-saturation during infiltration and recharge and undergo de-saturation under conditions of evaporation and drainage. The volume of saturation involved in the process of change in saturation in vadose zone (zone of weathering) is far large than the changes in volume of water involved in the elastic storage of water below the water table. It therefore may be noted, that the dynamic resource in ground water reservoir in the hard rock areas is governed by the “vadose zone” through which water levels fluctuate. It may also be mentioned that available storage in weathered zone in hard rocks is very much linked to base flow fluctuations in local streams.

4.3.2 Modeled electrical resistivity data output

#	Graph with Values
1	 vsi1 N ρ h d Alt 1 10.6 0.5 0.5 -0.5 2 1.49 0.538 1.04 -1.038 3 5.64 1.27 2.31 -2.311 4 49.5 2.32 4.63 -4.628 5 42.5 5.85 10.5 -10.48 6 22.5 9.92 20.4 -20.4 7 24.5
2	 vsi2 N ρ h d Alt 1 26.9 0.5 0.5 -0.5 2 4.72 0.54 1.04 -1.04 3 14.3 1.23 2.27 -2.271 4 24.8 2.56 4.83 -4.827 5 20 4.92 9.75 -9.751 6 36.6 10.3 20.1 -20.07 7 65
3	 vsi3 N ρ h d Alt 1 5.03 0.5 0.5 -0.5 2 43.2 0.55 1.05 -1.05 3 43.3 1.16 2.21 -2.211 4 14.7 2.42 4.63 -4.628 5 15.9 5.07 9.7 -9.702 6 37.5 10.7 20.4 -20.41 7 76
4	 vsi4 N ρ h d Alt 1 11 0.502 0.502 -0.5025 2 18.6 0.549 1.05 -1.051 3 16 1.16 2.21 -2.211 4 29.3 2.39 4.61 -4.606 5 50.2 5 9.6 -9.603 6 25.7 10.6 20.2 -20.2 7 14.6

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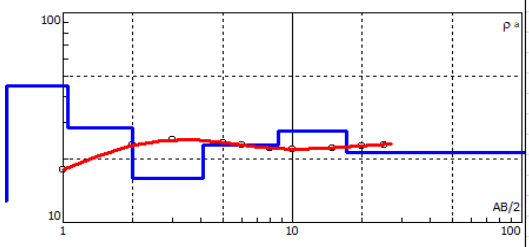
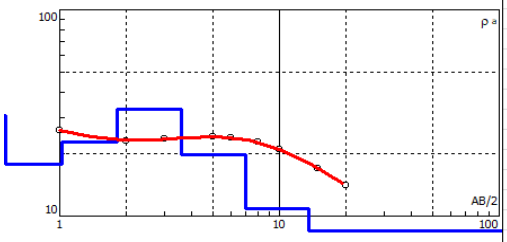
5



vsi5

N	ρ	h	d	Alt
1	12.7	0.507	0.507	-0.5067
2	45	0.544	1.05	-1.051
3	28.4	0.953	2	-2.004
4	16.3	2.07	4.07	-4.074
5	23.5	4.62	8.69	-8.694
6	27.3	8.51	17.2	-17.2
7	21.6			

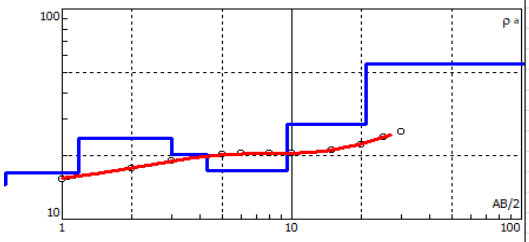
6



vsi6

N	ρ	h	d	Alt
1	30.7	0.514	0.514	-0.5139
2	17.8	0.516	1.03	-1.03
3	22.9	0.795	1.82	-1.825
4	33.1	1.77	3.6	-3.596
5	19.9	3.45	7.05	-7.046
6	10.9	6.55	13.6	-13.59
7	8.48			

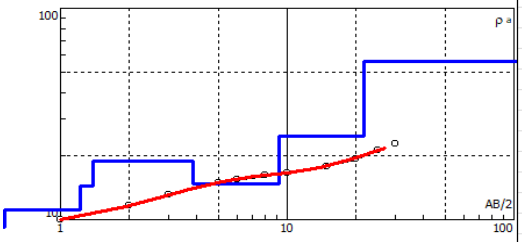
7



vsi7

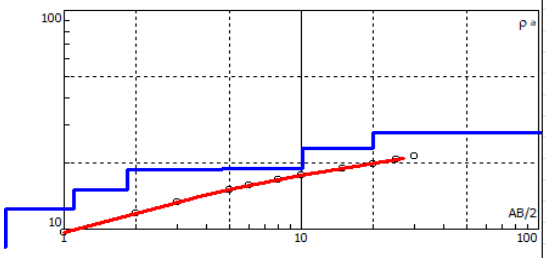
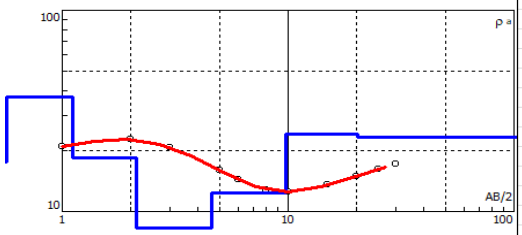
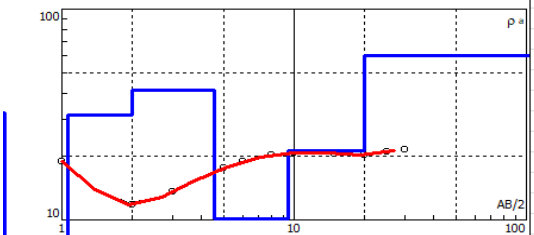
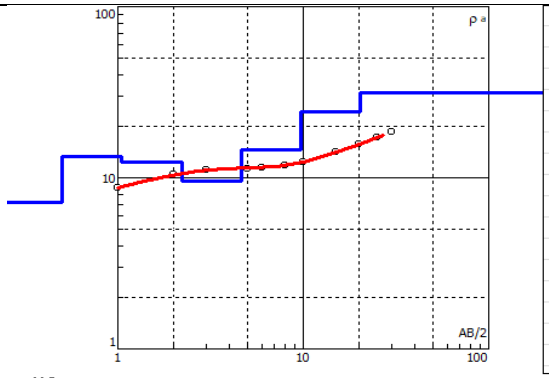
N	ρ	h	d	Alt
1	14.5	0.5	0.5	-0.5
2	16.7	0.676	1.18	-1.176
3	24.2	1.84	3.02	-3.016
4	20.4	1.25	4.27	-4.271
5	17	5.22	9.49	-9.49
6	28.2	11.7	21.1	-21.15
7	54.6			

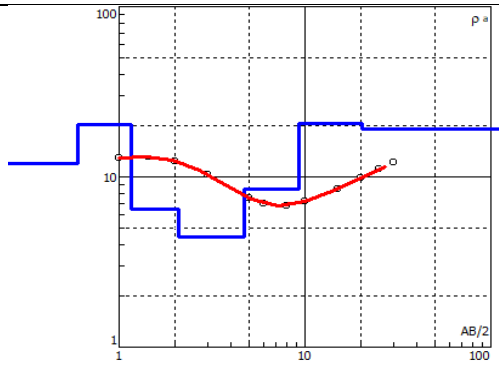
8



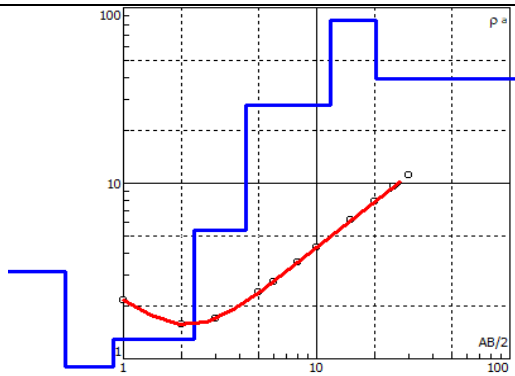
vsi8

N	ρ	h	d	Alt
1	9.16	0.5	0.5	-0.5
2	11.1	0.718	1.22	-1.218
3	14.4	0.182	1.4	-1.4
4	19	2.46	3.86	-3.858
5	14.8	5.33	9.19	-9.188
6	24.9	12.5	21.7	-21.68
7	56.4			

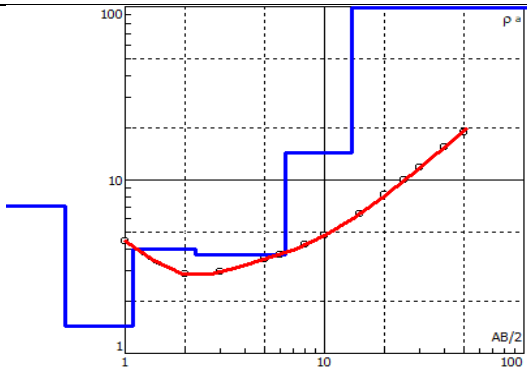
9	 vsi9	N ρ h d Alt 1 8.29 0.5 0.5 -0.5 2 12.4 0.601 1.1 -1.101 3 15.1 0.745 1.85 -1.846 4 18.7 2.78 4.63 -4.628 5 19 5.46 10.1 -10.08 6 23.5 10.1 20.2 -20.17 7 27.5
10	 vsi10	N ρ h d Alt 1 17.6 0.531 0.531 -0.5309 2 37 0.588 1.12 -1.118 3 18.6 1.02 2.14 -2.14 4 8.29 2.42 4.56 -4.564 5 12.3 5.16 9.73 -9.729 6 24.2 10.7 20.4 -20.4 7 23.5
11	 vsi11	N ρ h d Alt 1 32.3 0.504 0.504 -0.5045 2 4.11 0.552 1.06 -1.056 3 31.4 0.949 2.01 -2.005 4 41.3 2.55 4.55 -4.554 5 10.1 4.83 9.39 -9.387 6 21.2 10.8 20.2 -20.18 7 60.3
12	 vsi12	N ρ h d Alt 1 7.23 0.5 0.5 -0.5 2 13.3 0.542 1.04 -1.042 3 12.3 1.17 2.21 -2.213 4 9.51 2.42 4.63 -4.634 5 14.5 5.07 9.71 -9.707 6 24.3 10.7 20.4 -20.37 7 31.3

13	 vsi13	

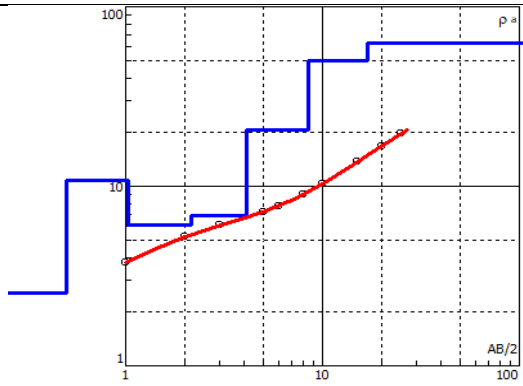
N	ρ	h	d	Alt
1	12.1	0.601	0.601	-0.6015
2	20.2	0.567	1.17	-1.169
3	6.5	0.928	2.1	-2.097
4	4.41	2.59	4.68	-4.682
5	8.45	4.57	9.25	-9.252
6	20.5	11.1	20.4	-20.4
7	19.1			

14	 vsi14	

N	ρ	h	d	Alt
1	3.14	0.5	0.5	-0.5
2	0.905	0.386	0.886	-0.8861
3	1.29	1.45	2.33	-2.332
4	5.4	2	4.33	-4.331
5	27.7	7.44	11.8	-11.78
6	84.8	8.62	20.4	-20.4
7	39.5			

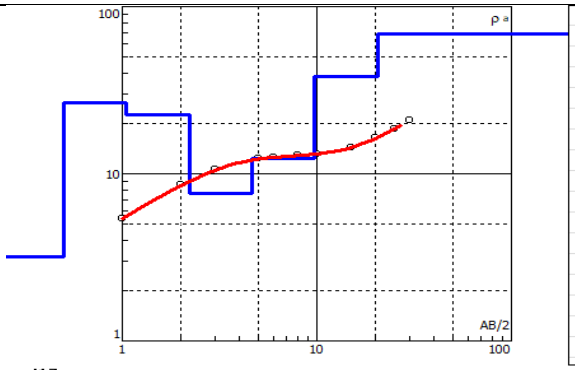
15	 vsi15	

N	ρ	h	d	Alt
1	7.08	0.5	0.5	-0.5
2	1.44	0.59	1.09	-1.09
3	4.01	1.17	2.26	-2.258
4	3.72	4.16	6.41	-6.414
5	14.4	7.32	13.7	-13.74
6	114	20.3	34	-34
7	431			

16	 vsi16	

N	ρ	h	d	Alt
1	2.55	0.503	0.503	-0.5029
2	10.8	0.531	1.03	-1.034
3	6.07	1.11	2.14	-2.142
4	6.84	2	4.14	-4.137
5	20.6	4.29	8.43	-8.427
6	49.7	8.57	17	-17
7	63.1			

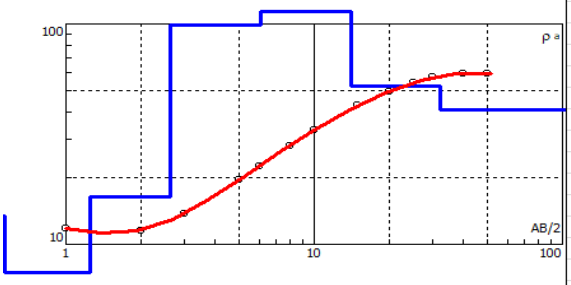
17



vsi17

N	ρ	h	d	Alt
1	3.17	0.5	0.5	-0.5
2	26.6	0.541	1.04	-1.041
3	22.5	1.17	2.21	-2.206
4	7.68	2.4	4.61	-4.61
5	12.3	5.12	9.73	-9.734
6	38.2	10.7	20.5	-20.47
7	68.3			

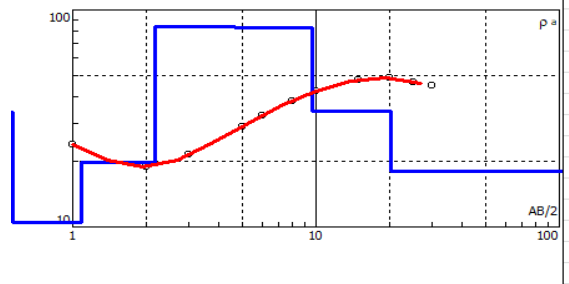
18



vsi18

N	ρ	h	d	Alt
1	13.4	0.551	0.551	-0.5513
2	7.47	0.7	1.25	-1.252
3	16.4	1.39	2.64	-2.639
4	99	3.43	6.07	-6.074
5	114	8.08	14.1	-14.15
6	52.3	18	32.2	-32.16
7	40.6			

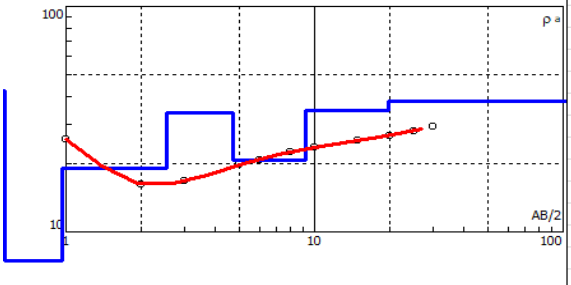
19



vsi19

N	ρ	h	d	Alt
1	33.9	0.51	0.51	-0.5095
2	10.5	0.571	1.08	-1.081
3	19.8	1.11	2.19	-2.186
4	83.8	2.44	4.63	-4.628
5	82.9	5	9.62	-9.623
6	34.2	10.8	20.4	-20.39
7	18			

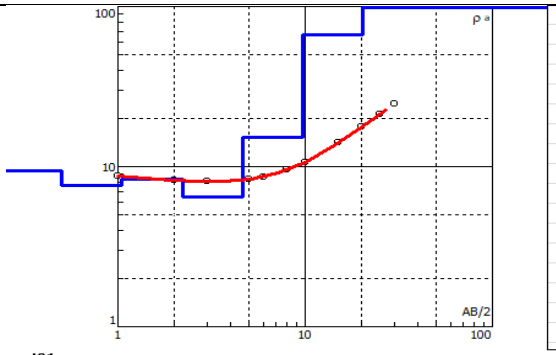
20



vsi20

N	ρ	h	d	Alt
1	42.3	0.5	0.5	-0.5
2	7.43	0.462	0.962	-0.9624
3	19.1	1.57	2.53	-2.529
4	33.8	2.16	4.69	-4.689
5	20.8	4.52	9.21	-9.207
6	34.7	10.7	19.9	-19.91
7	38.2			

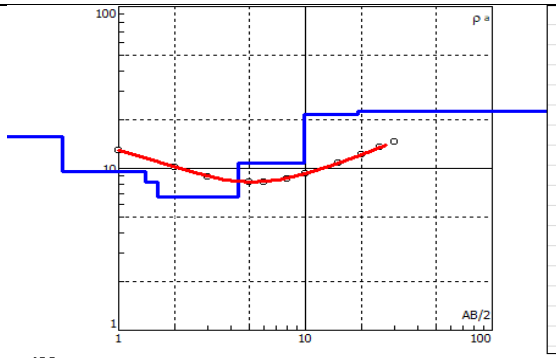
21



vsi21

N	ρ	h	d	Alt
1	9.43	0.503	0.503	-0.5028
2	7.64	0.541	1.04	-1.043
3	8.31	1.16	2.21	-2.206
4	6.51	2.42	4.62	-4.624
5	15.2	5.1	9.73	-9.725
6	66.9	10.5	20.2	-20.19
7	181			

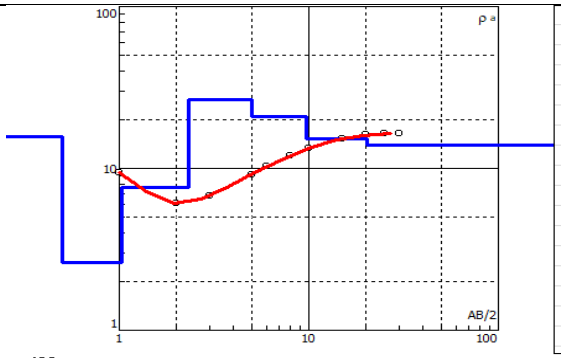
22



vsi22

N	ρ	h	d	Alt
1	15.7	0.5	0.5	-0.5
2	9.5	0.893	1.39	-1.393
3	8.28	0.215	1.61	-1.608
4	6.69	2.74	4.35	-4.351
5	10.8	5.48	9.83	-9.827
6	21.6	9.37	19.2	-19.19
7	22.4			

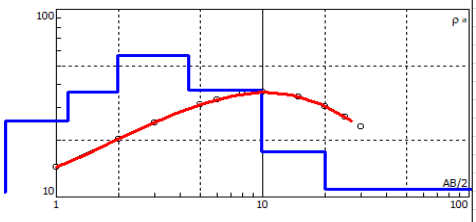
23



vsi23

N	ρ	h	d	Alt
1	15.7	0.5	0.5	-0.5
2	2.64	0.531	1.03	-1.031
3	7.65	1.28	2.31	-2.312
4	26.5	2.68	5	-4.995
5	20.9	4.69	9.69	-9.689
6	15.3	10.7	20.4	-20.4
7	14			

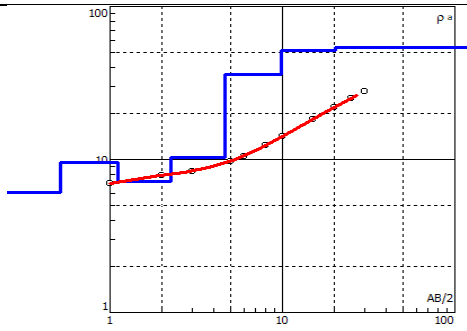
24



vsi24

N	ρ	h	d	Alt
1	10.6	0.5	0.5	-0.5
2	25.4	0.639	1.14	-1.139
3	36.1	0.845	1.98	-1.984
4	56.8	2.39	4.37	-4.371
5	37	5.47	9.84	-9.839
6	17.3	10.1	20	-19.97
7	10.9			

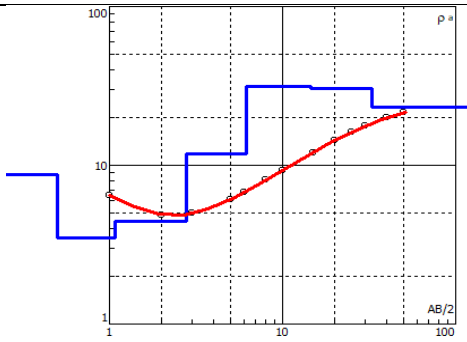
25



vsi25

N	ρ	h	d	Alt
1	6.05	0.513	0.513	-0.5131
2	9.54	0.59	1.1	-1.104
3	7.2	1.15	2.26	-2.258
4	10.3	2.35	4.61	-4.608
5	36	5.29	9.9	-9.896
6	51.6	10.5	20.4	-20.4
7	53.8			

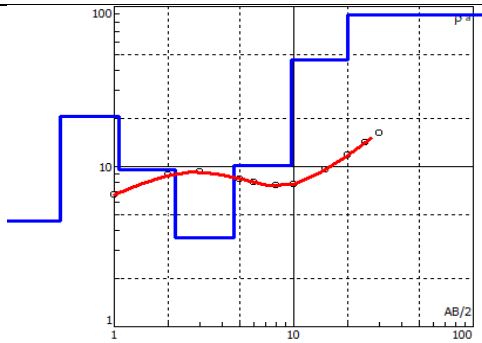
26



vsi26

N	ρ	h	d	Alt
1	8.67	0.5	0.5	-0.5
2	3.46	0.583	1.08	-1.083
3	4.44	1.68	2.76	-2.764
4	11.8	3.46	6.22	-6.219
5	31.4	8.4	14.6	-14.62
6	30.5	18.3	32.9	-32.88
7	23.1			

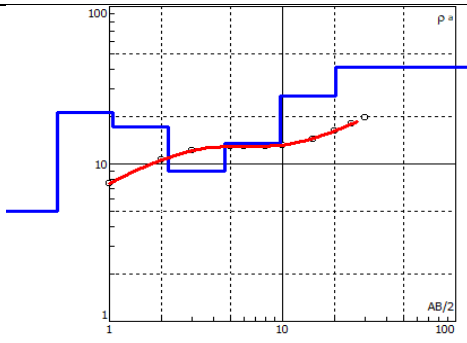
27



vsi27

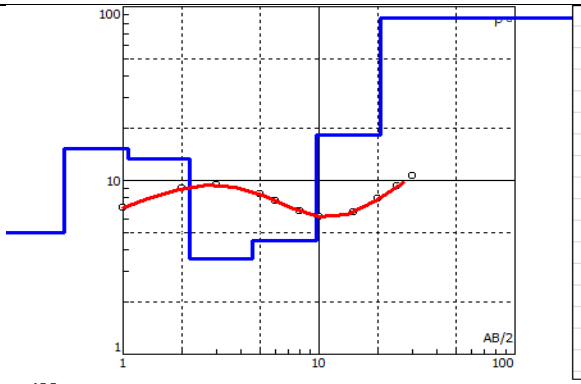
N	ρ	h	d	Alt
1	4.55	0.503	0.503	-0.503
2	20.6	0.56	1.06	-1.063
3	9.56	1.13	2.19	-2.195
4	3.59	2.41	4.61	-4.608
5	10.1	5.17	9.78	-9.776
6	46.7	10.2	20	-19.97
7	89			

28

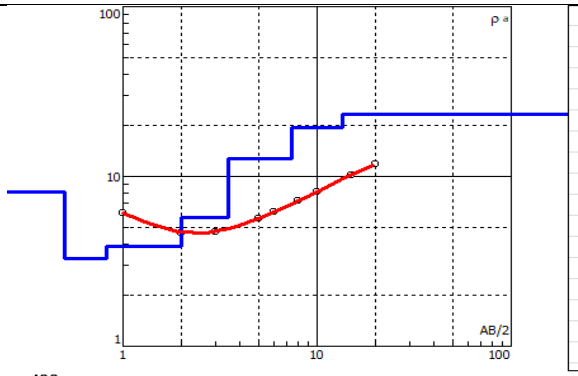


vsi28

N	ρ	h	d	Alt
1	5.03	0.5	0.5	-0.5
2	21.4	0.549	1.05	-1.049
3	17.2	1.15	2.2	-2.202
4	8.98	2.41	4.62	-4.615
5	13.6	5.11	9.73	-9.728
6	27.1	10.7	20.4	-20.41
7	41.1			

29	 vsi29	

N	ρ	h	d	Alt
1	5.03	0.5	0.5	-0.5
2	15.3	0.555	1.05	-1.055
3	13.4	1.15	2.2	-2.201
4	3.54	2.37	4.57	-4.571
5	4.47	5.16	9.73	-9.735
6	18.4	10.7	20.4	-20.44
7	86			

30	 vsi30	

N	ρ	h	d	Alt
1	8.06	0.5	0.5	-0.5
2	3.28	0.321	0.821	-0.8208
3	3.88	1.19	2.01	-2.01
4	5.72	1.5	3.51	-3.506
5	12.7	3.88	7.39	-7.39
6	19.5	6.21	13.6	-13.6
7	23.4			

5.0 Preventive and mitigation measures

5.1 Storage of Molasses

Such type of accident occurred second time in the past nine years in the distillery unit. Therefore, it is advised to the factory management to strictly adhere and follow Indian standard 5521: 2022 Steel tanks for storage of molasses- specification (second revision). This standard covers the requirements of materials, recommended volumes and dimensions, method of construction, and testing of mild steel tanks for storage of molasses in sugar factories. It is advised to appoint competent auditor for this purpose and confirm the compliance of standard.

Volume & Dimensions: The diameter and height of the molasses storage tanks usually depends upon the size of the ground area available and the volume of molasses required to be stored. Table 5.1 gives the recommended volumes and dimensions of tanks for storage of molasses.

Table 5.1: Recommended Volumes and Dimensions for Steel Tanks for Storage of Molasses

Volume	Effective volume	Height	Diameter	Bottom plate	1st Course	2nd Course	3rd Course	4th Course	5th Course	6th Course	Last 2 Course	Roof
(m^3)	(m^3)	(m)	(m)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1250	1125	8	14.11	12	8	6	4	6	6	6	6	5
1500	1350	8.5	14.99	12	8	8	6	6	6	6	6	5
2000	1800	9.6	16.29	12	10	8	6	6	6	6	6	5
2500	2250	9.8	18.03	12	12	10	8	6	6	6	6	5
3000	2700	9.6	19.95	12	12	10	8	6	6	6	6	5
3500	3150	9.8	21.33	12	14	12	10	8	6	6	6	5
4000	3600	9.6	23.04	12	14	12	10	8	6	6	6	5
4500	4050	9.8	24.19	12	16	12	10	8	6	6	6	5
5000	4500	9.6	25.76	12	16	14	12	10	8	6	6	5
5500	4950	9.6	27.02	12	16	14	12	10	8	6	6	5
6000	5400	9.8	27.93	12	18	14	12	10	8	6	6	5
6500	5850	10	28.78	12	18	16	14	12	10	8	6	5
7000	6300	10	29.86	12	20	16	14	12	10	8	6	5
7500	6750	10	30.91	12	20	16	14	12	10	8	6	5
8000	7200	10	31.92	12	20	16	14	12	10	8	6	5

Note: The height of the tank shall be determine taking into consideration the soil bearing capacity and the cost of making foundation suitable for the recommended height.

5.2 Material used to build storage tank-

1. The tank for storage of molasses shall be built from mild steel plant with Grade A (IS 2062)
2. Thickness of the steel plates used in the bottom, shell and roof shall be as given in Table 1. (IS 1730)
3. Fabrication procedure shall be as per IS 803

4. Tank shall be designed with due consideration of seismic loading as per IS 1893 (part 2).

5. The welding details of shell should be as per the IS 803.

6. The welding of top curb angle with shell and roof should be as per IS 803.

5.3 FABRICATION

1. All joints shall be seam or butt welded. The welded joints shall be sound and finished smooth inside and shall be water-tight. The bottom plates shall be V-grooved and welded with butt welding. Mild steel strip 60 mm wide and 6 mm thick shall be provided (over lapped welded) over the welds. After welding of bottom plate, Weldment should be checked with Die pentrant /magnetic particle inspection method.

2. The permissible stresses for welds and welded connections shall conform to values given in IS 816.

3. Suitable radial trusses shall also be employed for support of the roof of the tank (see fig.1), which may directly be supported on the shell plates with a curb angle at the roof level all around.

4. **Centre Column-** Two channels MC 300 or MC 225 at right angles to each other with suitable saddle at the base shall be provided (see IS 803).

5. The permissible stresses for the bottom, shell and roof of the tank shall be in accordance with IS 800.

6. The tank shall be designed with due consideration to the wind loads, which shall be in accordance with IS 875 (Part 3).

7. To ensure proper welding of bottom plate with the first shell course, minimum outside projection of bottom plate from shell should be 25 mm.

8. Minimum spacing or unsupported length of the roof plate should not be more than 2100 mm.

5.4 Fittings and accessories-

1. Outlet- The outlet shall be of steel with a minimum diameter of 15 cm and shall be located on the first course of the tank 15 cm above the bottom. The suction for pumping molasses should be from the side of the tank.

2. Outlet Discharge Valve- A sluice valve, of stainless steel, Class 150, followed by another similar valve, in series shall be fitted to the outlet opening.

3. Drainage or Washout Valve- A stainless steel sluice valve, Class 150, followed by another similar valve, in series shall be fitted at the bottom of the tank and also connected to the outlet (fig. 1).

4. Inlet- The inlet of molasses shall preferably be at the bottom (see Fig. 1) unless the molasses is discharged through an overhead pipeline in which case the molasses should not be allowed to fall from a height as in doing so a lot of air gets occluded, which is not desirable. Instead, the pipe may be held tangential to the inside of the wall about a meter from the top. The inlet shall be fitted with a non-return valve followed by a sluice valve.

5. Indicator Thermometer- The tank shall be provided with at least three RTDs or 15 cm dial thermometers, one about 0.15 m from the bottom, other at one-third height and the third at two-thirds height of the tank.

6. Manhole- Two manholes having diameter of 45 to 60 cm shall be located one on the top and other on the side bottom of the tank (see fig. 1). A suitable attachment shall be provided to securely hold the man-way door in position through a suitable bracket. A bolt without attachment shall be fitted to hold the bracket in position, alternatively, a loose cover with lifting handle may be provided. The manhole covers shall be watertight.

7. Safety Railing- A safety railing, with toe plate, all around the roof of the tank shall be provided. The railing shall be of the height of 1 m. The maximum distance between two railing posts shall be 2.4 m (see fig. 1). A walkway on the top of the roof sheet is to be marked with weather proof paint near the trusses for safety purpose.

8. Vent Pipe or Chimney- A vent pipe or chimney shall be provided at the center of the roof for venting out of the gas (see fig. 1). For large size tank over 16 m diameter, more than one vent pipe may be provided. The mouth of the vent pipe shall be suitably protected with wire netting.

9. A 25 mm drip cock shall be provided at the outlet for sampling purposes

10. Water Spraying Coil- Provision of a perforated water spraying coil 25/40 mm in diameter shall be made all round outside the tank with water inlet connections at Four peripheral Points. The direction of the perforations shall be such that the water flows along the sides of the tank (see fig. 1).

11. Painting- The tank shall be suitably painted on the outside and with anti-corrosive paint on the inside. The roof, and the supporting trusses and the top strake may be painted inside also.

12. Staircase- The tank shall be provided with a staircase of sturdy construction and design and made of mild steel, duly painted. The staircase shall be provided with suitable hand railing and adequate landings.

13. The tank may be provided with a suitable level indicator.

14. All openings in the tank shall be so made that there is no possibility of accumulation of liquid or other foreign matter and the entrances are protected against dust, insects, and other extraneous materials. All component parts shall be capable of being cleaned and inspected in position or by dismantling, if necessary.

15. To include following accessories as a part of molasses tank:

a) Suitably designed molasses cooling system; and

b) Re-circulation pumping system.

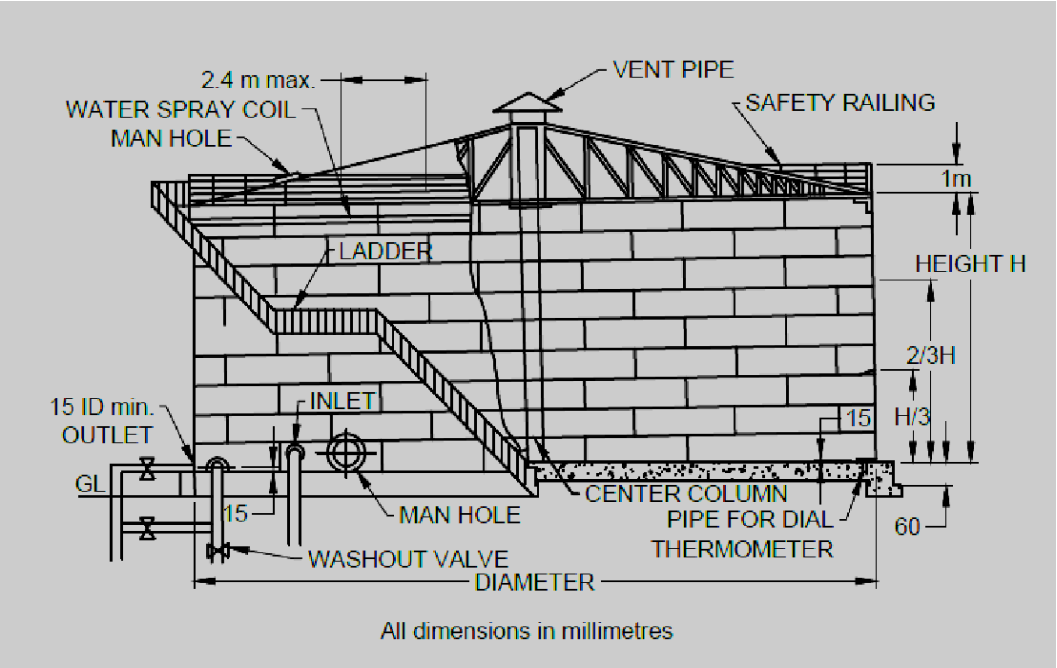


Figure 5.1: Details of the Steel Tank for Storage of Molasses

Above guideline are taken from IS 5521: 2022 of 'Steel Tanks for Storage of Molasses – Specification (Second Revision)'. This guideline covered for only safety aspect that related to accident happens in factory. For other detail aspects related to construction of molasses storage tank please, refer following standards.

Table 5.2: Detail aspects related to construction of molasses storage tank

#	IS	Title
1.	800 : 2007	General construction in steel-Code of practice (*third revision*)
2.	803 : 1976	Code of practice for design fabrication and erection of vertical mild steel cylindrical welded oil storage tanks (*first revision*)
3.	816 : 1969	Code of practice for use of metal arc welding for general construction in mild steel (*first revision*)
4.	875 (Part 3) : 2015	Design loads (other than earthquake) for buildings and structures- Code of practice: Part 3 Wind loads (*third revision*)
5.	1162 : 2021	Cane Molasses- Specification (*first revision*)
6.	1730 : 1989	Dimensions for steel plates, sheets strips and flats for general engineering purposes (*second revision*)
7.	1893 (Part 2) : 2014	Criteria for earthquake resistant design of structures: Part 2 Liquid retaining tanks (*fifth revision*)
8.	2062 : 2011	Hot rolled medium and high tensile structural steel- Specification (*seventh revision*)

5.5 Additional measures

- From the past accident history, it is recommended to consult the expert and explore feasibility of an auto system to control the temperature and pressure (of gasses) inside the molasses storage tanks.
- Consult safety expert for feasibility of installation of early warning/detection system
- Molasses storage tank yard should be fenced properly and work entry permit system should be practiced even for the workers and factory staff. This should be immediately and strictly followed to prevent fatalities in such accidents.
- Consult an expert civil engineer and make suitable arrangement to prevent the spread/spilled material to maximum extent within the premises. Consult him for making garland drainages/dykes all around the molasses storage tank area. The management should also explore the feasibility of making any additional measures outside its premises in consultation with an expert civil engineer and local village panchayat
- Make a permanent impervious storage tank arrangement within the factory premises. This tank will be used to store the collected spilled material. During off-season it can be used as a rain water harvesting storage. It should be provided with suitable capacity pumps and suitable length and dimeter pipelines
- Measures suggested by Civil engineer, safety expert or structural engineers etc need to be implemented in a time bound manner. Environment and safety management teams must be empowered for smooth, time bound and responsible implementation of the suggestions.

Table 5.3: Estimated provisions for preventive measures

#	Preventive measure/activity	Estimated cost/provision (Rs in lakhs)
1.	Consultation of safety expert, safety audit and safety measures	15.00
2.	Consultation of civil engineering expert	05.00
3.	Fencing and garland drains to collect the spilled material	20.00
4.	Provisions of storage tank	15.00
5.	Provision for measures recommended by expert civil engineer	20.00
	TOTAL	**75.00**

5.6 Remediation/Mitigation measures

- It was observed from ground water and soil analysis results that the contamination of ground water as well as soil from accident affected area is remediated naturally.

- Even though, the pollutants got mitigated naturally, but it is advised to the factory to undertake following measures as corporate environmental responsibility (CER)

Table 5.4: Estimated provisions for preventive measures

#	Preventive measure/activity	Estimated cost (Rs in lakhs)			
		1st year	2nd year	3rd year	Total
1.	Development of a greenbelt along the fencing near molasses storage area and thickening of greenbelt in other areas Tree plantation outside the factory premises (neighboring villages)	03.00	03.00	03.00	**09.00**
2.	Provision of safe drinking water to the affected families and all locals of Jungle wadi (per year – for next three years)	07.00	07.00	07.00	**21.00**
3.	Provisions of organic fertilizers and/or liquid/similar fertilizers for enhancing N and P availability to the crops – On subsidized rate for farmers affected due to the accident (for next three years)	05.00	05.00	05.00	**15.00**
4.	Skill development/training to local youth for employment/job opportunities (per year for next three years)	02.00	02.00	02.00	**06.00**
	TOTAL	17.00	17.00	17.00	**51.00**

6.0 Damage assessment and monetization

6.1. Water environment

The test reports of ground water samples collected from an area where molasses spread occurred compared with representative samples where spread doesn't occur or at a far distance. From these results it was observed that, at present the impact of molasses on ground water environment got mitigated. Important pollution parameters such as pH, COD, BOD indicate the ranges in normal or very mildly polluted. The pollutants might have diluted and partially carried away due to rains. Further, dilution might have also occurred by subsoil (Below surface) streams of respective dug wells.

Therefore, monetizing the damage of water environment, carried out using **shadow pricing mechanism. In this method, the estimation of the distance function enables us to obtain the shadow price of the undesirable outputs. In this case the undesirable output considered as BOD and COD values that are the major indicator of pollution. This method is originally described in a research paper published by F. Hernández-Sancho et al. (2010). In their study, these researchers considered nitrogen, phosphorous, suspended solids, BOD and COD as undesired output of sewage treatment plants in their studies. This is mainly because the cost involved in removing these undesirable components is considerable in order to reuse the sewage. Hence, the considered the cost as environment benefit cost and interpreted the results.**

However, in the present case, ground water and soil is affected due to accidental release of the molasses. Strength of liquid pollutant is usually measured in BOD and COD. While estimating COD, the demand of oxygen for oxidation of inorganics is get covered. Therefore, in the present study estimating cost for the inorganic may lead to duplication of the cost for same pollution. In other words, the damage cost due to inorganic also gets covered through COD value. Therefore, COD and BOD considered as important parameter for damage cost estimation.

Reference F. Hernández-Sancho et al. / Science of the Total Environment 408 (2010) 953–957 (Enclosed as annexure to the report for ready reference) (described on page 40 of Framework for Environmental Damages Cost Assessment by NEERI).

Table 6.1: Monetization calculations as per the said method

Important parameter considered	Test Value (kg/ton - rounded average basis)	Total discharge value
Chemical oxygen demand (COD)	63	63 kg/T x 4000 tons = 252,000 kg
Bio-chemical oxygen demand (BOD)	23	23 kg/T x 4000 tons = 92,000 kg

as per the abovementioned guideline publication, pollutant cost of the above parameters are

Table 6.2: Pollutant cost of COD and BOD

	Damage cost in €/kg (2010)	Total discharge value of pollutant	€/Rs rate for April 2023 (max)	Damage cost In Rs – (rounded to nearest number)
Chemical oxygen demand (COD)	0.140	252,000 kg	91.0386	**32,11,842.00**
Bio-chemical oxygen demand (BOD)	0.058	92,000 kg	91.0386	**4,85,782.00**
TOTAL				**36,97,624.00**

6.2 Soil environment

While estimating damage cost for soil environment of the accident affected area, following points were considered.

- Duration of spread of the pollutant in the soil
- Nature of the pollutant for soil environment
- Percolation of the pollutant and its present status in subsoil layers or levels
- Long term impact associated with the pollutant released

There is no evidences or record available to ascertain the period of accumulation of pollutant in the soil. According to the factory officials, they scrapped the molasses from field using available bagasse and removed it to maximum extent in 10-12 days after the accident. Hence, it is presumed that molasses spread was observed for two weeks. Considering the organic nature of molasses and its high content of potash, makes it difficult to distinguish undesirable components. Even, the acidic nature of the molasses might have helped in reducing soil alkalinity which is reported in the samples collected from non-affected area.

Therefore, the accidental spread of molasses on soil perceived as an impact due to high COD, BOD of molasses. The same amount i.e. Rs. 36,97,624.00 (Rupees thirty-six lakhs ninety-seven thousand six hundred twenty-four) is suggested as a damage cost.

6.3 Geo-physical report

From the resistivity surveys it is inferred that throughout the area from surface downwards up to depth of 25 meters the strata are highly weathered and conducive for water infiltration and therefore the infiltration of the molasses released during the disaster and may have contaminated the groundwater present in the area. This contamination might have occurred immediately after the accident. However, the samples of

ground water collected during the study reveals almost traces of pollutant in the collected samples. These pollutants may be due to local contamination.

As far as the damage assessment concerned, the damage due to discharge of molasses having very high COD, BOD into the ground water and soil is already monetized (Refer table 6.2). It covers the contamination of ground water which is monitored and geo and hydro-geo studies. Therefore, no additional damage cost from geological and hydro-geological perspective is proposed here.

6.4 Crop and agriculture

In this case, there is no specific data available for quantification of crop damage. It was observed from the data provided by the factory officials, MPCB site visit record covered site specific conditions observed at that time. However, there is no any mention of how many dug wells were affected due to the accident? How much soil observed damaged due to molasses spread? How many crops suffered the impact of accident? **Through this report we request the concerned authorities to prepare a standard operating procedure/s (SOPs) and develop related format/s to record the damage in all future cases (applicable to even other industrial accident cases).**

6.5 Wild Flora and Fauna

During the initial preliminary visit to site in Dec. 2022, there were five eucalyptus trees found dried and dead, just outside the boundary-wall of the accident site. Acidic pH of the molasses and its temperature might be the reason for the death of those trees. These trees were not observed during actual damage assessment survey. Therefore, its diameter and related parameters for estimation of its volume were not available. This data serves as an input to estimate the cost of the tree.

Therefore, this damage assessment is carried out based on the reference where cost was recovered for damaging trees. The said reference is enclosed as Annexure IV. The cost charged per tree is Rs. 41,750/-. Considering the same, cost for damaging five trees is Rs. 2,08,750/-

7.0 Conclusion

Table 7.1: The damage assessment and preventive/mitigation measures cost

	Particular	Cost/provision (Rs)
Damage Cost	Cost of damage due to accidental discharge of molasses into the ground water of nearby areas	36,97,624.00
	Cost of damage due to accidental discharge of molasses into the soils of nearby areas	36,97,624.00
	Cost of damage to flora/trees due to accidental discharge of molasses	2,08,750.00
Preventive measures provision	Provision for implementation of preventive and mitigation measures	75,00,000.00
Mitigation measures (additional) through CER	Provision for implementation of CER activities	51,00,000.00
	TOTAL	**2,02,03,998.00**
	Rupees two crores two lakhs three thousand nine hundred ninety eight	

8.0 Project Team

The Institute has received accreditation from Quality Council of India (QCI)/National Accreditation Board for Education and Training (NABET) for EIA consultancy services. It is also a recognized Research and Development center of Department of Scientific and Industrial Research (DSIR), Ministry of Science and Technology, Government of India.

Table 8.1: Project team of Damage assessment study

Name	Designation	Role / Expertise
Dr. Deepali Nimbalkar	Senior Scientist & Head Dept. of Environmental Sciences, VSI	**Environment Expert**
Dr. Nitin Karmalkar	Ex-Vice Chancellor, Retired head of Department of Environmental Sciences of Savitribai Phule Pune University	**Geology and Hydro-geology**
Dr. Duraiswami Raymond	Associate Professor, Dept. of Geology, Savitribai Phule Pune University	**Geology and Hydro-geology**
Dr. Amol Deshmane	Scientist Dept. of Environmental Sciences, VSI	**Project coordinator** **Ecology, Biodiversity and Environment Expert**
Dr. Vivek Patil	Scientific Officer Dept. of Environmental Sciences, VSI	**Environment Expert**
Mr. Vikram Deshmukh	Scientific Officer Dept. of Environmental Sciences, VSI	**Environment Expert**
Ms. Priyanka Kad	Research Assistant, Dept. of Environmental Sciences, VSI	**GIS Expert**

Team for sampling and laboratory analysis of collected samples

1. Dr. Hemlata Hingane (Scientific officer, VSI)
2. Mr. Aftab Momin (Research assistant, VSI)
3. Mr. Parshuram Chalwadi (Research assistant, VSI)
4. Ms. Pooja Kerle (Research assistant, VSI)

LIST OF ANNEXURES

TRUE COPY

ANNEXURE R-3

BEFORE THE NATIONAL GREEN TRIBUNAL,

WESTERN ZONE BENCH PUNE

ORIGINAL APPLICATION NO. 85 OF 2022 (WZ)

Sachin Sudamrao Pachpute …Applicant

Vs.

Shahakar Maharshi Shivajirao Narayanrao

Nagawade SSK Ltd. (Sugar Unit) & Ors. …Respondent(s)

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PRELIMINARY REPLY TO THE DAMAGE ASSESSMENT REPORT OF AUGUST 2023 PREPARED BY VASANTDADA SUGAR INSTITUTE

PAPER BOOK

(FOR INDEX KINDLY SEE INSIDE)

ADVOCATES FOR RESPONDENT NO. 1
SANGRAMSINGH R. BHONSLE, SAMRIDHI S. JAIN,
NRUPAL A. DINGANKAR, PUSHKARA A. BHONSLE,
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BEFORE THE NATIONAL GREEN TRIBUNAL,

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Drawn on: 08.02.2024
Filed on: 08.02.2024

BEFORE THE NATIONAL GREEN TRIBUNAL,

WESTERN ZONE BENCH PUNE

I.A. NO. 182 OF 2023

IN

ORIGINAL APPLICATION NO. 85 OF 2022 (WZ)

Sachin Sudamrao Pachpute …Applicant

Vs.

Shahakar Maharshi Shivajirao Narayanrao

Nagawade SSK Ltd. (Sugar Unit) & Ors. …Respondent(s)

PRELIMINARY REPLY TO THE DAMAGE ASSESSMENT REPORT OF AUGUST 2023 PREPARED BY VASANTDADA SUGAR INSTITUTE

To,

The Hon'ble Chairperson and

His Hon'ble Companion Members of

The Hon'ble National Green Tribunal.

The Humble Reply of the Respondent No. 1

It is most respectfully showeth,

1. The present Original Application has been filed by the Applicant against the Respondent No. 1 Industry alleging the Environmental Damage due to the sugarcane crushing activity of the Respondent No.1 Industry in breach of the renewal of Consent dated 23.12.2021 as well as the direction of the Stop Work Order dated 10.02.2022 issued by the Respondent No.2/MPCB against the

Respondent No. 1 Industry. Also, it has come on record in the present original application that on 10.02.2022, an accidental blast occurred at the molasses storage tank of the Respondent No. 1 Industry. In this background, the Respondent No. 2 had issued Stop Work Order dated 10.02.2022 and also, on 17.10.2022 had directed the Respondent No.1 Industry to carry out assessment of the contamination of the soil, cost of remediation and damage assessment through NEERI/IIT/VSI. In compliance of the order dated 17.10.2022 issued by the Respondent No.2, the Respondent No. 1 Industry appointed VSI Pune for carrying out Soil & water Contamination Assessment Study including damages to the recipient environment and remedial measures thereto. In terms thereof, VSI Pune carried out Damage Assessment for Molasses Tank Burst Accident.

2. The VSI Pune on completion of the said assessment filed a final report viz. "*Damage Assessment Report for Molasses Tank Burst Accident Occurred at M/S Sahkar Maharshi Shivajirao Narayanrao Nagawade Sahkari Sakhar Karkhana Ltd." (herein after referred to as the "**said report**")*. The said report was produced before this Hon'ble Tribunal by the Respondent No. 1 and forms a part of record from *Page 352 to 574* of the Paper Book of the present Original Application. Vide the said report, the VSI Pune has assessed a total cost for damage assessment and preventing/mitigation measures to be Rs. 2,02,03,998.00/- under 3 measure heads viz. Damage Cost, Preventive Measures Provision and Mitigation Measures (Additional) Through CER.

3. At the outset it is submitted that the Respondent No. 1 denies the contents and the analysis of the said report unless specifically admitted hereinbelow. Vide the present reply the Respondent No. 1 seeks liberty of this Hon'ble Tribunal to highlight the Preliminary Objections with regard to damage assessment as carried out by VSI Pune in the said Report. The Respondent No. 1 reserves its right to file further detailed objections if need be.

4. Vide the said report, the VSI Pune even though came to the conclusion that the impact of molasses as a contaminant of the ground water was mitigated as well as found no traces of contamination due to molasses on soil, has erroneously came to the conclusion that the Respondent No.1 Industry may be put to the cost of Rs. 2,02,03,998.00/-. Such analysis and conclusion thereof are in total contravention to each other which shows non-application of mind by the agency undertaking the damage assessment and therefore the Respondent No. 1 questions the findings of said report on the following amongst other grounds which are without prejudice to each other:

A. <u>THE PROCEDURE FOLLOWED BY THE VSI PUNE FOR SAMPLING WAS NOT IN ACCORDANCE WITH SECTION 21 OF THE WATER (PREVENTION AND CONTROL OF POLLUTION) ACT, 1974 AND THEREFORE, DOES NOT STAND THE TEST OF LAW:</u>

i. It is submitted that vide the present Original Application, this Hon'ble Tribunal is considering the alleged violations by the Respondent No. 1 Industry and effects of blast in molasses tank in the Respondent No. 1 Industry happened on 10.02.2022. After the said Incident, the Respondent No. 2/MPCB issued interim directions u/s 33A of Water Act and u/s 31A of the Air Act on 17.10.2022. Vide the directions dated 17.10.2022, the Respondent No. 2 directed the Respondent No.1 Industry to carry out assessment of contamination, cost of remediation and damage assessment through NEERI/IIT/VSI. In terms thereof, the Respondent No. 1 approached the VSI Pune to assess the contamination and cost of remediation and damage assessment. Therefore, the VSI Pune was to undertake the analysis of contamination of water and soil in allegedly affected area due to spread of molasses due to blast in the Respondent No. 1 Industry.

ii. The VSI Pune for undertaking the analysis of the contamination of water and soil collected the samples from the streams and wells. Since, the VSI Pune was appointed in terms of the directions passed by the Respondent No. 2/MPCB ought to have followed the provisions of Section 21 of the Water Act while collecting the water samples for analysis.

iii. The provisions of Section 21 of the Water (Prevention and Control of Pollution) Act, 1974 have been extracted herein below for the sake of convenience.

"21. Power to take samples of effluents and procedure to be followed in connection there with.—(1) A State Board or any officer empowered by it in this behalf shall have power to take for the purpose of analysis samples of water from any stream or well or samples of any sewage or trade effluent which is passing from any plant or vessel or from or over any place into any such stream or well.

(2) ***The result of any analysis of a sample of any sewage or trade effluent taken under sub-section (1) shall not be admissible in evidence in any legal proceeding unless the provisions of sub-sections (3), (4) and (5) are complied with****.*

(3) Subject to the provisions of sub-sections (4) and (5), when a sample (composite or otherwise as may be warranted by the process used) of any sewage or trade effluent is taken for analysis under sub-section (1), the person taking the sample shall—

(a) serve on the person in charge of, or having control over, the plant or vessel or in occupation of the place (which person is hereinafter referred to as the occupier) or any agent of such occupier, a notice, then and there in such form as may be prescribed of his intention to have it so analysed;

(b) in the presence of the occupier or his agent, ***divide the sample into two parts****;*

(c) cause each part to be placed in a container which shall be marked and sealed and shall also be signed both by the person taking the sample and the occupier or his agent;

(d) send one container forthwith,—

(i) in a case where such sample is taken from any area situated in a Union territory, to the laboratory established or recognised by the Central Board under section 16; and

(ii) in any other case, to the laboratory established or recognised by the State Board under section 17;

(e) on the request of the occupier or his agent, send the second container,—

(i) ***in a case where such sample is taken from any area situated in a Union territory, to the laboratory established or specified under sub-section (1) of section 51****; and*

(ii) in any other case, to the laboratory established or specified under sub-section (1) of section 52. 2

(4) When a sample of any sewage or trade affluent is taken for analysis under sub-section (1) and the person taking the sample serves on the occupier or his agent, a notice under clause (a) of sub-section (3) and the occupier or his agent wilfully absents himself, then,—

(a) the sample so taken shall be placed in a container which shall be marked and sealed and shall also be signed by the person taking the sample and the same shall be sent forthwith by such person for analysis to the laboratory referred to in sub-clause (i) or sub-clause (ii), as the case may be, of clause (e) of sub-section (3) and such person shall inform the Government analyst

appointed under sub-section (1) or sub-section (2), as the case may be, of section 53, in writing about the wilful absence of the occupier or his agent; and (b) the cost incurred in getting such sample analysed shall be payable by the occupier or his agent and in case of default of such payment, the same shall be recoverable from the occupier or his agent, as the case may be, as an arrear of land revenue or of public demand:

Provided that no such recovery shall be made unless the occupier or, as the case may be, his agent has been given a reasonable opportunity of being heard in the matter.]

(5) When a sample of any sewage or trade effluent is taken for analysis under sub-section (1) and the person taking the sample serves on the occupier or his agent a notice under clause (a) of sub-section (3) and the occupier or his agent who is present at the time of taking the sample does not make a request for dividing the sample into two parts as provided in clause (b) of sub-section (3), then, the sample so taken shall be placed in a container which shall be marked and sealed and shall also be signed by the person taking the sample and the same shall be sent forthwith by such person for analysis to the laboratory referred to in sub-clause (i) or sub-clause (ii), as the case may be, of clause (d) of sub-section (3)."

iv. Thus, a bare reading of Section 21 of the Water (Prevention and Control of Pollution) Act, 1974, more particularly Sub- Section (2) makes it clear that result of any analysis of a sample of any sewage or trade effluent shall be admissible in evidence, if and only if the provisions of sub clause (3), (4) and (5) have been complied with.

v. Further, under Clauses (b) and (c) of Sub Section (3) of Section 21 of the Water Act, the person taking the sample shall in the presence of the occupier or his agent, divide the sample into 2 parts and cause each part to be placed in a container which shall be marked and sealed and shall also be signed by the person taking the sample and the occupier or his agent. In the present case, the officers of the VSI Pune neither divided the sample collected into 2 parts, nor marked, sealed the same and did not even take the signatures of the Authorized representative of the

Respondent No.1 on the collected sample. Thus, yet again the procedure for collection of water sample as contemplated under the provisions of the Water (Prevention and Control of Pollution) Act, 1974 was not complied with by the VSI Pune and therefore the results of the sampling cannot be relied upon.

vi. Also, under Clauses (d) and (e) of Section 21 of the Water Act, the person taking the sample after diving the sample into 2 parts, has to send one sealed, marked, signed samples to the laboratory established or recognized by the Central or the State Board as the case may be and upon the request of the occupier or his agent, send the second container to the laboratory established under Section 51 of the Water Act. In the present case, it is not disputed that the VSI Pune undertook the analysis of water samples in its own laboratory which is accredited by NABL. However, the VSI Pune failed to divide the sample in two parts as contemplated u/s 21(3)(b) of the Water Act.

vii. Therefore, the question that arises for consideration of this Hon'ble Tribunal that whether the VSI Pune ought to have sent the copies of the sample to the laboratories as contemplated under Section 21(3)(e) of the Water Act and failure to do so would result in making any analysis in furtherance of the collection of the sample in-admissible in law as evidence.

viii. In terms thereof, it is also important to refer the provisions of Section 22(4) of the Water Act which contemplates the effect of inconstancy or

discrepancy between, or variation in results of the analysis. It is the law that if any such discrepancies are found, the report of laboratory established u/s 52 of the Water Act would prevail. It is a contention of the Respondent No. 1 that the provisions of Section 21 and Section 22 of the Water Act go hand in hand and establishes a procedure for keeping check on the analysis report. It may be also inferred that the Water Act contemplates possibilities of variations in the analysis reports and thus, the analysis by any laboratory u/s 51 or 52 of the Water Act holds utmost importance.

ix. In the present case, since, the copy of the sample was not preserved and was not tested by any other laboratory except laboratory of the VSI Pune, the mere reliance on one analysis may not suffice a correct inference regarding the quality of water and soil. Therefore, the analysis as done by VSI Pune creates reasonable doubt and also any inference thereof may not be admissible in evidence in terms of Section 21 of the Water Act and therefore the said report is vitiated and ought to be set aside.

B. <u>THE SAID REPORT SHOWS THE NON-APPLICATION OF MIND AS THE OBSERVATIONS AND THE CONCLUSION OF THE SAID REPORT ARE CONTRARY TO EACH OTHER.</u>

i. Vide the said report, the VSI Pune undertook the work by analyzing the samples of water (including ground water) as well as soil in around area of the Respondent No.1 factory which was allegedly affected due to the said blast. The VSI Pune collected the water samples from three different geographical locations such as low to moderately affected area, moderately affected area, highly affected area and non-affected area. On conducting the detailed analysis, the VSI Pune made certain observations on the basis of PH-Value, COD, BOD Etc.. Without commenting on the technical aspect of the same and thereby reserving the rights to file detailed reply on technicalities, the Respondent No. 1 would like to draw the attention of this Hon'ble Tribunal to the observations made by VSI Pune.

ii. The observations on analysis of water are as follows:

"*From the monitoring results it was observed that the acidic effect due to molasses did not persisted for sampled locations*".

(Pg. 402 of the Paper Book)

"*It indicates that the impact of molasses as a contaminant of the ground water is totally mitigated*"

(Pg. 403 of the Paper Book)

"*Therefore, two key pollution indicator parameters i.e. COD and BOD_ test values reported for the ground water Samples of the study area show low values at the most of monitored locations. COD Values more than 50 mg/l reported only at three locations. Similar trends observed for BOD*

values. Therefore, impact of molasses spread on ground water quality of the study area was not observed form the test results"

(*Pg. 405 of Paper Book*)

"*An impact due to the accident on the TDS values of the ground water samples of study area, not observed of the results of the tested samples*"

(*Pg. 408 of Paper Book)*

Finally, it was observed that

"The ground water sample analysis results of the study area indicate that the impact of accidental contamination of the molasses on the ground water characteristics of the area could have attenuated naturally. Test Parameters of samples from the accident affected area as well as from non-affected places were varied in more or less a same range."

(*Pg. 410 of Paper Book)*

iii. The observations on analysis of soil are as follows:

With regard to Electric Conductivity Test of soil it was observed that:

"It can be observed from the test results of EC of soils that there is no impact of accidental release of molasses"

(*Pg. 422 of Paper Book)*

Finally, it was observed that:

"*Overall, the soil analysis results show similar trend as ground water analysis. It means, the impact due to accidental contamination of the resources (water and soil) is probably remediated naturally. The soil samples collected from accident contaminated/affected areas and non-*

affected areas show more or less similar characteristics. Therefore, present status of soils of the study area show no traces of molasses contamination as such. It may be due to effective scrapping action taken by the factory management immediately after the accident. In this action, molasses from contaminated soil and other surfaces was scrapped with bagasse, removed mechanically and transferred to the compost yard of the distillery unit"

(*Pg. 430 of Paper Book)*

iv. On perusal of the above analysis, it is clear that the effect of spread of molasses due to blast at Respondent No. 1 factory is not persisting as on date and has been totally mitigated. The VSI Pune also came to the conclusion that such mitigation was only possible due to effective scrapping action taken by the factory management immediately after the accident. The mitigation measures to preserve the quality of the environment were undertaken by the Respondent No. 1 Industry Immediately after the accident. The Respondent No. 1 factory also submitted detailed action taken report with the Respondent No. 2/MPCB on 10.02.2022 (*refer Pg. 141 of Paper Book*). Also, the Respondent No.1 Industry transferred the molasses spread in the area to a storage tank. *(refer Pg. 103 with Pg. 142 of the Paper Book).* Thus, the immediate action was taken by the Respondent No. 1 factory which admittedly resulted in no adverse impact of the molasses spread on the water and soil and such other environmental components. The Respondent No. 2, on

considering the same also, granted Renewal of Consents to the respondent No. 1 industry on 08.11.2022 and 11.11.2022. (*Refer Pg. 211-219 and Pg. 220-229 of the paper book*.)

v. However, the VSI Pune, vide the said report has erroneously calculated cost of damage due to accidental discharge of molasses into the ground water of nearby areas to be Rs. 36,97,624.00/-, cost of damage due to accidental discharge of molasses into the soil of nearby areas to be Rs. 36,97,624.00/- and cost of damage to flora/trees due to accidental discharge of molasses to be Rs. 2,08,750.00/-. It is submitted that on the one hand the VSI Pune concluded that the pollution factor have been mitigated due to efforts of the Respondent No.1 factory and on the other hand calculated the damage cost. Also, it has to be considered that the Respondent No.1 Industry has already taken steps by investing large amount and thus any cost in this regard would not be equitable and just. In such circumstances, the calculation of damage cost by VSI Pune, is erroneous.

vi. Also, the VSI Pune has calculated the cost for remediation and mitigation measures to be Rs. 51,00,000.00/-. It was advised to take steps as a Corporate Environmental Responsibility (CER). It is submitted with utmost humility that the Respondent No. 1 is committed to CER and have been implementing such measures and programs in this regard. The VSI Pune has suggested the CER Measures such as development of greenbelt, provisions for safe drinking water, provisions for organic fertilizers, shill

development programs for youths. It is submitted that the Respondent No.1 factory is already undertaking such programs since it's a establishment. The Respondent No.1 factory has entered into agreements with the farmers to provide organic fertilizers which are the outcome of the production. *(Refer Pg. 175 to 182 of Paper Book)*. Also, the Respondent No. 1 Industry has undertaken the tree plantation drive whereby, till date out of the open space available of 2,07,513 sq. mts. an area of 68,480 sq. mtrs. (i.e. 33 % of total area available) was brought under plantation for development of green elt by planting around 15,000 trees. Such factors ought to have been considered by VSI Pune and ought not to have imposed a cost of Rs. 51,00,000.00/- for mitigation measures through CER as the factory is already undertaking the CER activities. The Respondent No. 1 factory also undertakes to carry on such activities in future and would work towards betterment of the Environment and would also adhere to the Corporate Social Responsibility.

vii. Further, the VSI Pune has estimated the cost of provisions for preventing measures to be Rs. 75,00,000.00/-. However, such cost as imposed by the VSI Pune is erroneous as the VSI Pune itself has advised to appoint competent auditor for this purpose and confirm the compliance of standards. While calculating the cost of Rs. 75,00,000.00/- the VSI Pune has made assumptions and presumptions without there being any basis for the same. The VSI Pune has assumed the consultation fees of safety experts, civil engineering experts etc. and has arrived at a presumption

that the estimated cost would be Rs. 75,00,000.00/-. Such exercise by VSI Pune is baseless and without any scientific data. Also, it is also submitted that the VSI Pune was to only assess the damage incurred and not the required costs for the remediation/mitigation of the environmental damages. In such circumstance, the calculate of remediation/mitigation costs and imposition of the same on the Respondent No.1 factory was beyond the power and scope of the VSI Pune.

viii. Therefore, the cost as calculated by the VSI Pune vide the said report to the tune of Rs. 2,02,03,998.00/- is erroneous and does not hold water and ought to be set aside by this Hon'ble Tribunal.

C. <u>THE SAID REPORT LACKS THE APPLICATION OF MIND AS THE TECHNICAL SUGGESTIONS FOR PREVENTIVE MEASURES WERE MADE WITHOUT THERE BEING ANY TECHNICAL EXPERT AS A PART OF PROJECTING WHO UNDERTOOK THE DAMAGE ASSESSMENT STUDY</u>.

i. The VSI Pune was to undertake the damage assessment caused due to blast occurred in the Respondent No.1 factory premises. The study was revolving around the damage assessment to the environment. The Committee was comprising of the environmental and geology experts. However, no member such as civil engineering expert, safety experts, etc. were not forming a part of the committee.

ii. However, the committee calculated the estimated cost for preventive measures for setting up steel tank which underwent a blast. It is most respectfully submitted that the construction of the molasses tank and such other components of the sugar factory falls within the expertise of the Civil Engineering and Safety Consultants. None of the members of the committee were having expertise/knowledge/experience of the Civil Engineering and Safety Consultants fields and hence the exercise of cost estimation for setting up steel tank by the members of the committee lacks merits and expertise.

iii. Also, the cost estimation without any such expertise to the tune of Rs. 75,00,000.00/- is erroneous and lacks application of mind.

D. Without prejudice to the contention of the Respondent No. 1 Industry that the Respondent No.1 Industry is not liable to pay any cost as calculated by the said report, it is submitted that the VSI Pune while calculating the damage cost has failed to rely on any particular formula ever accepted by this Hon'ble Tribunal or any other such courts. Also, the VSI Pune has relied on the research papers to come over the conclusions which are neither accepted nor described in any law. On perusal of such research papers, it is clear that the same are the studies conducted in different countries and have not considered the environmental conditions in India. Therefore, such reliance by VSI Pune on the said research papers is erroneous.

5. Thus, in view of the averments, contentions and grounds mentioned herein above the final report viz. "*Damage Assessment Report for Molasses Tank Burst Accident Occurred at M/S Sahkar Maharshi Shivajirao Narayanrao Nagawade Sahkari Sakhar Karkhana Ltd."* filed by VSI Pune ought to be set aside being devoid of merits.

FILED BY:

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Drawn on: 08.02.2024
Filed on: 08.02.2024

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ANNEXURE R-4

Item No.4 (Pune Bench)

BEFORE THE NATIONAL GREEN TRIBUNAL
WESTERN ZONE BENCH, PUNE

THROUGH PHYSICAL HEARING (WITH HYBRID OPTION)

Original Application No.85/2022(WZ)
I.A. No.182/2023 & Caveat No.12/2022

Sachin Sudamrao Pachpute

.....Applicant

Versus

Shahakar Maharshi Shivajirao Narayanrao Nagawade SSK Ltd & Ors.

....Respondent(s)

Date of hearing: 09.02.2024

CORAM: HON'BLE MR. JUSTICE DINESH KUMAR SINGH, JUDICIAL MEMBER
HON'BLE DR. VIJAY KULKARNI, EXPERT MEMBER

Applicant	:	Mr. Tanaji B. Gambhire, Advocate along-with Mr. Vijay Mhaske, Advocate
Respondent(s)	:	Mr. Sangramsingh R. Bhonsle, Advocate along-with Ms. Samridhi S. Jain, Mr. Nrupal A. Dingankar, Ms. Pushkara A. Bhonsle, Mr. Naman Sherstra, Mr. Mahesh Jadhav, Advocates for R-1/PP Mr. Aniruddha S. Kulkarni, Advocate for R-2/MPCB & R-3/CPCB

ORDER

1. From the side of applicant, learned counsel Mr. Tanaji B. Gambhire has appeared, who pressed for I.A. No.182/2023(WZ) to be taken up for hearing, whereby he has sought an amendment in para no.1 of the Original Application, which pertains to Gat No.623/2, near Malicha Odha, Village: Kashti, Tal.- Shrigonda, District: Ahmednagar, regarding which it is alleged by him that due to typographical error, the same has got typed as Gat No.623/2, although it should have been Gat No.623/3.

2. This I.A. has been opposed by the learned counsel Mr. Sangramsingh R. Bhonsle representing respondent No.1-Project Proponent by filing an objection dated 08.02.2024, wherein it is mentioned that this amendment

is being brought on record after a considerable delay when the same was pointed out by the learned counsel for respondent No.1. He has mentioned in para no.6 of the objection, as many as, nine dates during which the hearing has been done in this matter. But at none of these dates, the learned counsel for applicant had sought amendment of this kind that he has prayed now, deliberately. It is also argued by him that this was done in order to get this application admitted by showing that the Gat No.623/2 was adjoining to the industry of the respondent No.1. The said Gat Number was deliberately mentioned wrong, as Gat No.623/3 is located far away from the industry where no pollution could have happened. He has also argued that he should be allowed to keep his right to address this Tribunal on the point of 'aggrieved person', open under Section 18(2) of the National Green Tribunal Act, 2010 because the applicant has no grievance arisen in this matter.

3. On the other hand, the learned counsel for applicant submits that it is a typographical error and has also filed a copy of 7/12 extract, wherein he is shown to be the owner of Gat No.623/3, which is taken on record.

4. We are of the view that there appears to be force in the argument of learned counsel for applicant that it was a typographical error because the documentary evidence, which he has placed before us, proves that he is the owner of Gat No.623/3 and not of the Gat No.623/2, which belongs to some other person. He has also no objection that the respondent No.1 may raise objection with respect to the applicant being 'aggrieved person' in this case because on the basis of evidence on record, the applicant would prove that actually, the pollution had happened, which adversely impacted the crop of the applicant.

5. Since much objection has been raised from the side of respondent No.1 mainly on the ground of delay, we allow this I.A. subject to a cost of Rs.5,000/- (Rs. Five Thousand) to be paid with the Western Zone Bench Bar Association of NGT at Pune.

6. Let the amendment be carried out in the present application by the applicant today itself.

I.A. No.182/2023(WZ) stands disposed of accordingly.

Original Application No.85/2022(WZ)

7. The learned counsel for respondent No.1-PP has also filed objection dated 08.02.2024 against the report of VSI (Vasantdada Sugar Institute), which has been submitted in compliance with the direction issued by the respondent No.2-MPCB vide letter dated 17.10.2022, annexed at page no.154 of the paper book, wherein it was directed that assessment of contamination, cost of remediation and damage assessment through NEERI/IIT/VSIT should be carried out within two months by the respondent No.1. In compliance with that direction, the said report has been submitted, against which the respondent No.1 has filed an objection dated 08.02.2024 and a copy of which is said to have been served upon the applicant, who may file objection against the same, if any, within one week.

8. The learned counsel for applicant has also pointed out that by this Tribunal's earlier order dated 12.05.2023, a direction was issued for collecting the samples from the Gat Number in question in presence of the applicant and thereafter, the Joint Committee was directed to submit its fresh report. In this regard, it is apprised that the sample has been taken and the report is still awaited. The MPCB is the Nodal agency of the said Committee. We direct the Nodal agency of the Joint Committee i.e. MPCB

to ensure that the report is submitted within two weeks and a copy of the same shall be served upon all other parties, who may file objection against the same, if any, within one week thereafter.

9. Registry is directed to list this matter for final hearing on 22.04.2024.

Dinesh Kumar Singh, JM

Dr. Vijay Kulkarni, EM

February 09, 2024
Original Application No.85/2022 (WZ)
I.A. No.182/2023 & Caveat No.12/2022
P.Kr

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Reg. No. ANR/PRG(A) 1, Date 3/8/1965

ANNEXURE R-5 (COLLY)

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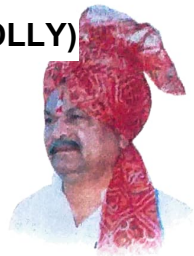
सहकार महर्षी शिवाजीराव नारायणराव नागवडे
सहकारी साखर कारखाना लि.,
मु.पो. श्रीगोंदा फॅक्टरी, ता. श्रीगोंदा, जि. अहमदनगर - ४१३७२६
SAHAKAR MAHARSHI SHIVAJIRAO NARAYANRAO NAGAWADE
SAHAKARI SAKHAR KARKHANA LTD.
A/P-Shrigonda Factory- (413726) Tal. Shrigonda, Dist. Ahmednagar (MS)



Central/Dist/57/ 1852 /2021-22

Date – 25.02.2022

Annexure-4

To,
Member Secretary,
Maharashtra Pollution Control Board,
Kalpataru point, 2nd & 4th Floor, Opp. Cine
Planet cinema, near Sion Circle, Sion (E)
Mumbai – 400022.

Sub – Regarding stoppages notice for operation of the sugar unit under section 33(A) of the water, act 1974 & under section 31(A) of the air, act 1981.

Ref – Direction notice no. MPCB/RON/755/143 dated 10.02.2022.

Respected Sir,

With reference to above cited subject, we have received stoppages notice of the sugar unit due to incident of blast in 1 molasses storage tank which is occurred on 10.02.2022, but we are not stopped the crushing season due to following reasons as below.

In season 2021-22, sugarcane production is increased in Maharashtra as compare to last two year due to the satisfactory rainfall and hence in our work-space, there is lot off sugarcane production for this crushing season. Now, we had crushed the 6.45 Lac MT of sugarcane in this crushing season and balance 2.75 Lac MT sugarcane is remaining & it is factory responsibility to crush the all sugarcane which is registered to our factory by our shareholder farmers.

Also, Hon'ble Commissioner of Sugar, Maharashtra state giving order that, do not stopped the crushing season until to crush all sugarcane, which is registered to sugar factory. Meanwhile, your office has issue order to stoppage the cane crushing after incident occurred in distillery premises and we are accepted your order and stopped the distillery production but unfortunately, we could not stop the crushing due to the order of Sugar commissioner, Pune regarding excess crop of sugarcane. All Condition as per direction is followed and compliance report is already submitted to concern offices.

At the outset we wish to submit that, we are very law a binding people and have a policy to obey all the laws of the land and environment status. We assure you that, we abide by all the rules and regulation of the M.P.C. Board and complying on top priority.

Hence, you are once again requested you to withdraw the stoppages notice and co-operate us.

Thanking you.

Yours Faithfully,

(R. S. Naik)
Managing Director,
S.M.S.N.Nagawade S.S.K. Ltd.,

Phone - 02487 - 252220 / 222 / 242 Fax. 02487 - 252339/421 E-mail-shrigondasugar@yahoo.co.in

महाराष्ट्र शासन

साखर आयुक्तालय, साखर संकुल, शिवाजीनगर पुणे 411005

दूरध्वनी क्र 020- 25538042-44 Email- commsugarvikas@gmail.com

जा.क्र.सा.आ/विकास/परिपत्रक/ 87 /2022 दिनांक- 8 फेब्रुवारी, 2022

वाचा-

1.ऊस नियंत्रण आदेश, 1966

2. महाराष्ट्र साखर कारखाने (क्षेत्र आरक्षण, गाळप आणि ऊस पुरवठा नियमन) आदेश, 1984

3.साखर आयुक्त कार्यालयाचे दिनांक 26 जुलै 2021 रोजीचे परिपत्रक

4. हंगाम 2021-22 च्या गाळप परवानातील अटी व शर्ती

परिपत्रक

शासनाने दिनांक 15 ऑक्टोबर 2021 पासून सन 2021-22 चा गाळप हंगाम सुरू करण्यास मान्यता दिलेली आहे. त्यानुसार 197 कारखान्यांनी गाळप हंगाम सुरू केलेला आहे. राज्यात गाळप हंगामाच्या प्राथमिक अंदाजानुसार राज्यामध्ये एकूण 12.32 लाख हेक्टर क्षेत्रावर चालू हंगामाकरिता ऊस उपलब्ध आहे.

2/- 2021-22 गाळप हंगामांमध्ये राज्यात मोठ्या प्रमाणात ऊस उपलब्ध असल्याने सर्व कारखान्यांनी 2021-22 गाळप हंगामाकरिता उपलब्ध असलेल्या ऊसाचे संपूर्णपणे गाळप होईल त्यादृष्टीने नियोजन करावे. कारखान्याकडे नोंदवलेला तसेच नोंदणी न झालेला आणि गाळपास उपलब्ध असलेल्या ऊसाचे संपुर्ण गाळप होईल याकरीता सर्व सहकारी साखर कारखान्यांचे कार्यकारी संचालक, खाजगी साखर कारखान्यांचे जनरल मॅनेजर व शेतकी अधिकारी /केन मॅनेजर यांनी दक्षता घ्यावी.

3/- प्रादेशिक सहसंचालक (साखर) यांनी प्रत्येक कारखान्याच्या कार्यक्षेत्रातील उपलब्ध उसाचा अंदाज घेऊन अतिरिक्त ऊस असल्यास संबंधित कारखान्यांच्या कार्यकारी संचालक / जनरल मॅनेजर ,यांच्याशी वैयक्तिकरीत्या संपर्क करावा व ऊसाचे संपूर्णपणे गाळप होईल याचे नियोजन करावे. एखादया कारखान्याकडे अतिरिक्त ऊस शिल्लक राहात असल्यास नजीकच्या कारखान्यांना अतिरिक्त राहाणारा संपुर्ण

ऊस गाळप करण्याबाबत सुचना देण्यात याव्यात व ऊस गाळपा अभावी शिल्लक राहणार नाही याची दक्षता घेण्यात यावी.

4/- सर्व कार्यकारी संचालक व जनरल मॅनेजर यांना सुचना देणेत येते की , ऊस नियंत्रण आदेश, 1966 तसेच महाराष्ट्र साखर कारखाने (क्षेत्र आरक्षण, गाळप आणि ऊस पुरवठा नियमन) आदेश, 1984 तरतुदींनुसार व गाळप परवान्यातील अट क्रमांक 3 नुसार आणि साखर आयुक्त कार्यालयाचे दिनांक 26 जुलै 2021 रोजीचे परिपत्रकान्वये दिलेल्या सूचनांनुसार साखर आयुक्त कार्यालयाच्या परवानगी शिवाय साखर कारखान्यांनी गाळप हंगाम बंद करु नये. गाळप हंगाम बंद होण्याच्या 15 दिवसा अगोदर गाळप हंगाम बंद बाबत जाहीर निवेदन जास्त खप असलेल्या स्थानिक वर्तमान पत्रातून प्रसिध्द करण्यात यावे जेणे करुन ऊस उत्पादक शेतकऱ्यांना साखर कारखान्यांशी संपर्क करता येईल.

5/- जे कारखाने साखर आयुक्त कार्यालयाच्या परवानगी शिवाय गाळप हंगाम बंद करतील आणि जर हंगाम 2021-22 करिता कारखान्याच्या कार्यक्षेत्रात उपलब्ध असलेला नोंदवलेला अगर बिगर नोंदविला ऊस शिल्लक राहिल्यास त्याची जबाबदारी संबंधित साखर कारखान्याचे कार्यकारी संचालक / जनरल मॅनेजर यांची राहील.

Shekhar Narayan Gaikwad

(शेखर गायकवाड)
आयुक्त (साखर)

प्रति :

1. कार्यकारी संचालक, सहकारी साखर कारखाना लि., सर्व.
2. जनरल मॅनेजर, खाजगी साखर कारखाना लि., सर्व.
3. प्रादेशिक सहसंचालक (साखर), सर्व
4. व्यवस्थापकीय संचालक, महाराष्ट्र राज्य सहकारी साखर कारखाना संघ मर्या., साखर भवन, 11 वा मजला, नरिमन पॉईट, मुंबई- 21
5. कार्यकारी संचालक, वेस्ट इंडियन शुगर असोसिएशन, पुणे

प्रत: माहितीस्तव सविनय सादर,

मा. प्रधान सचिव (सहकार), सहकार, पणन व वस्त्रोद्योग विभाग, मंत्रालय विस्तार, मुंबई-32

TRUE COPY

ANNEXURE R-6

REPORT OF THE JOINT COMMITTEE IN COMPLANCE WITH ORDER DATED 29/09/2022 OF THE HON'BLE NATIONAL GREEN TRIBUNAL (NGT) IN THE MATTER OF OA NO. 85/2022 (WZ), SACHIN SUDAMRAO PACHPUTEVS SHAHAKAR MAHARSHI SHIVAJIRAO NARAYANRAO NAGAWADE SSK LTD (SUGAR UNIT) AND OTHERS

1.0 Background

Grievance in the Original Application No. 85 of 2022 (WZ), titled Sachin Sudamrao Pachpute vs Shahakar Maharshi Shivajirao Narayanrao Nagawade SSK Ltd., (Sugar Unit) and Others, as per order dated 29/09/2022 of the Hon'ble NGT is about discharging effluent in Ghod River without treating at Effluent Treatment Plant (ETP), non-compliances of consent to operate conditions issued by Maharashtra Pollution Control Board (MPCB). Also, the applicant alleged that due to molasses tank blast took place in the storage area, resulted in spreading of molasses in nearby natural nalla and agricultural lands. As a result, caused damage to standing crops of various farmers. Further, alleged that the respondent industry has non-complied with the directions issued dated 10/02/2022 by MPCB and the same is reproduced below:

> *"(i) The industry shall stop the feeding of sugarcane for crushing immediately and stop the operation of sugar factory within 48 Hrs. in a safe manner;*
>
> *(ii) The Industry shall collect, transport, store and dispose the molasses spread/flown and contaminated soil due to the said incident in a scientific manner so as to avoid further contamination of groundwater, surface water and soil within 48 Hrs. The Industry shall submit concrete action plan immediately.*
>
> *(iii) The Industry shall not restart crushing operation till further order/directions of the Board & Competent Authorities."*

Hon'ble NGT directed vide order dated 29/09/2022 (copy of Hon'ble NGT order, dated 29/09/2022 is given at **Annexure-1**) and relevant order is reproduced as below:

> *"7. We, therefore, constitute a Committee comprising one member each of Central Pollution Control Board (CPCB), Maharashtra Pollution Control Board (MPCB) and the District Collector of the concerned district, of which MPCB*

shall be nodal agency, with the direction that a report shall be submitted by the Committee after visit to respondent No.1's Unit in respect of as to whether the order dated 10.02.2022 issued by respondent No.2/MPCB has been carried out or not and any relevant factual aspect may also be brought to our notice.

8. The Committee shall submit its report within one month by e-mail at ngt-pune@gov.in preferably in the form of searchable PDF/OCR Support PDF and not in the form of Image PDF."

2.0 Approach

In order to comply with the aforesaid Hon'ble NGT order, dated 29/09/2022 the joint committee carried-out inspection of respondent No.1 industry i.e. M/s Shahakar Maharshi Shivajirao Narayanrao Nagawade SSK Ltd (Sugar Unit), Tal: Shrigonda, Dist: Ahmednagar (hereinafter referred as the industry) on 21/10/2022. The following committee members were present during the inspection:

i. Shri Nishchal C., Scientist 'D', CPCB, Regional Directorate, Pune
ii. Shri Chandrakant Shinde, Sub-Regional Officer, MPCB, Ahmednagar
iii. Shri Sudhakar Bhosle, SDM, Ahmednagar as representative of District Collector, Ahmednagar

Also, Shri Rajendra Patil, Field Officer-MPCB, Ahmednagar was present during the joint committee inspection. Shri R. S. Naik, Managing Director of the industry was accompanied the joint committee during the inspection and provided background information about the industry, environmental management system, alleged issued and area under reference.

3.0 Observations and findings

This report is outcome containing factual aspect of the said joint committee based on the preliminary information gathered from MPCB, followed by inspection of the industry & alleged areas, analysis results of water/effluent samples, information submitted the industry through MPCB and subsequent discussions of the joint committee. The observations & findings of the joint committee are given as below:

3.1 About the industry

M/s Shahakar Maharshi Shivajirao Narayanrao Nagawade SSK Ltd., is an integrated Sugar & Distillery industry, located at Plot no. 52/2, A/p-Limpangaon, Tal: Shrigonda, Dist: Ahmednagar. Both sugar & distillery is located within the same premises and having separate consent to operate (CTO) issued by MPCB. The CTO of sugar industry was expired on 31/07/2022 (Copy of CTO dated 23/11/2021 is given at **Annexure-2** for kind reference). As per the records of MPCB, the industry has applied for renewal of CTO vide dated 15/06/2022, which is pending before MPCB. CTO issued for cane crushing capacity of 3,500 TCD with manufacturing of following products, depicted in the below Table.

S. no.	Product/by-product	Consented quantity, MT/month
1.	Sugar	15,840
2.	Molasses	5,760
3.	Press mud	5,760
4.	Bagasse	40,320
5.	Co-generation	26 MW

Similarly, CTO of distillery was expired on 31/08/2022 (Copy of CTO dated 03/02/2021 is given at **Annexure-3** for kind reference). As per the records of MPCB, the industry has applied for renewal of CTO vide dated 17/06/2022, which is pending before MPCB. CTO issued for 30 KLPD molasses based distillery with manufacturing of following products, depicted in the below Table.

S. no.	Product/by-product	Consented quantity, KL/month
1.	Rectified spirit or Extra Neutral Alcohol or Ethanol	900
2.	Fusel oil	01

3.2 Water and effluent management – sugar industry

Main source of water is Ghod Left Bank Canal and the industry has obtained permission from Irrigation Dept., Pune for withdrawal of water. As per the records, the average daily consumption of fresh water is 800 m^3/day and mainly used for process (cooling water & machinery cleaning water) @ 240 m^3/day, utilities i.e. sugar industry boiler feed @ 600 m^3/day, cooling tower make-up & ancillary activities @ 220 m^3/day and domestic purpose @ 25 m^3/day respectively.

The main sources of effluent generation from process are; mill house section, boiling house section (multiple effect evaporators), vacuum pans, centrifugal section, process condensate contaminated with concentrated juice, ancillary activities (rotary vacuum filter cleaning & gland leakages from pumps, pipelines etc.) and fresh water RO reject & boiler blowdown streams. The management of process effluent & condensate and condensate/blowdown streams from utilities are briefed as follows:

- **Process effluent management:** Effluent generating from mill house section, centrifugal section & boiling house section is collected separately and channelized into ETP for treatment. The industry has provided ETP of reported designed capacity of 1,000 m^3/day and the reported effluent generation from the process is about 850 m^3/day (at full cane crushing capacity), out of which fresh water RO reject & utility boiler blowdown @ 250 m^3/day is recycled in the process. Hence, the actual effluent generation from the process is 600 m^3/day.

  The various unit operations & processes of ETP are; Process effluent → V-Notch chamber → Bar screen chamber → Grit chamber → O&G skimmer → Surge tank → Equalization tank with sparge aeration (lime addition) → Primary clarifier → Anaerobic holding tank-1 & 2 → Anaerobic filter → Bio-tower → Tube settler → Activated sludge process → Secondary clarifier (with RAS recycling) → Supernatant collection tank → Pressure sand filter → Activated Sand filter → Treated effluent collection tank → Treated effluent discharge to unlined lagoon (15 day storage capacity) for irrigation as per CTO conditions.

  Primary & secondary sludge from tube settler & clarifiers → Sludge holding tank → Sludge drying beds (02 nos., 20x5x2 m each) → Soil conditioner.

- **Process condensate management:** As informed, excess condensate from multiple effect evaporators & pan evaporators are collected separately and treated in newly commissioned ETP – condensate polishing unit (CPU). The industry has provided separate ETP (CPU) of reported designed capacity of 1,200 m^3/day.

The various unit operations & processes of ETP (CPU) are; Excess condensate → Two stage cooling tower → Equalization tank with diffused aeration → Anaerobic filter → Activated sludge process → Secondary clarifier → Flash mixer (with addition of alum & poly electrolyte) → Filter feed tank → Chlorination → Multi grade filter → Activated Sand filter → Treated condensate collection tank → Treated condensate is reused in recirculation pump cooling & its accessories and spray pond make-up. Also, treated condensate is reused in utilities (cooling tower make-up) after treatment through softner. Excess treated condensate is channelized to fresh water reservoir for reuse in process (sugar & distillery unit).

Secondary sludge from clarifiers of CPU of sugar & distillery industry is handled in a common sludge drying bed of ETP of sugar industry.

3.3 Water and effluent management – distillery industry

Main source of water is Ghod Canal and treated condensate from sugar & distillery industry. As per the records, the average daily consumption of fresh water is 70 m^3/day and mainly used for utilities i.e. distillery industry boiler feed @ 24 m^3/day, cooling tower make-up & ancillary activities @ 42 m^3/day. Similarly, the average daily consumption of treated condensate is 270 m^3/day and mainly used for manufacturing process (molasses dilution & fermenter make-up) @ 260 m^3/day, DM plant @ 05 m^3/day and ancillary activities @ 05 m^3/day respectively.

The main sources of effluent generation from process are; wash water used to clean the fermenters, spent wash & spent leese from distillation of fermented mash, ancillary activities and condensate from boiler & blowdown streams. The management of distillery effluent and condensate/blowdown streams from utilities are briefed as follows:

- **Distillery effluent management:** Effluent generating from various process is collected separately and channelized into ETP for treatment. The industry has provided ETP comprising of UASB followed by MEE and the reported effluent generation from process is about 360 m^3/day.

The various unit operations & processes of ETP are; Process effluent → 5 day storage lined lagoon → Buffer tank (with lime addition) UASB reactor, 02 nos. (5,200 m^3) → Treated effluent storage tank → MEE feed tank → MEE (5 stage) MEE concentrate @ 270 m^3/day → Spent wash lined lagoon (8,380 m^3 i.e. 30 days capacity) at bio-compost yard → Concentrated spent wash → Bio-composting on 05 acre lined platform as per CTO conditions.

Biogas generation from UASB is about 350 – 450 m^3/hr, which is either used in captive co-gen boiler as a supplementary fuel and the excess biogas is flared in the flaring system. Sludge from primary storage lagoon (5 day capacity) & yeast sludge from fermenters → Used in bio-composting.

- **MEE condensate management:** MEE condensate from multiple effect evaporator is collected and treated in newly commissioned ETP – condensate polishing unit (CPU). The industry has provided separate ETP (CPU) of reported designed capacity of 360 m^3/day.

  The various unit operations & processes of ETP (CPU) are; MEE condensate → Two stage cooling tower → Equalization tank with diffused aeration → Anaerobic filter → Activated sludge process → Secondary clarifier → Flash mixer (with addition of alum & poly electrolyte) → Filter feed tank → Pressure sand filter → Activated Sand filter → Treated condensate collection tank → Treated condensate is reused in molasses dilution & fermenter make-up, recirculation pump cooling & its accessories and utilities (cooling tower make-up) after treatment through softner.

- As informed, domestic wastewater generation from the sugar & distillery unit is in the tune of 45 & 03 m^3/day and as per CTO conditions, it is treated through septic tank followed soak pit. The treated domestic wastewater is being used for gardening as per CTO conditions.

Photographs of various treatment units of ETP of sugar & distillery unit is given below for kind reference.

Photograph-1: Grit chamber and oil & grease skimmer installed at ETP.

Photograph-2: ASP of sugar unit ETP under stabilization process.

Photograph-3: UASB reactor of distillery unit ETP.

Photograph-4: Biogas holder and flaring system.

Photograph-5: MEE of distillery unit ETP.

Photograph-6: CPU of distillery unit ETP.

Photograph-7: CPU of sugar unit ETP.

Photograph-8: 30 days lined spent wash storage lagoon.

Photograph-9: Old brick lined spent wash storage lagoon.

Photograph-10: Lined bio-compost preparation yard.

Photograph-11: PTZ camera installed at bio-composy yard of distilley unit.

Photograph-12: OCEMS installed at final treated effluent conveyance pipline of sugar unit ETP.

3.3 Compliance verification as per Hon'ble NGT order dated 29/09/2022

The Hon'ble NGT vide its order dated 29/09/2022 has directed the joint committee to submit a report in respect of as to whether the order dated 10/02/2022 issued by respondent No.2/MPCB has been carried out or not and also relevant factual aspect. Point-wise compliance verification to the directions as on date of joint committee inspection is depicted below.

- ***Direction no. 1 u/s 33A of the Water (Prevention & Control of Pollution) Act, 1974 and u/s 31A of the Air (Prevention & Control of Pollution) Act, 1981, dated 10/02/2022: "The industry shall stop the feeding of sugarcane for crushing immediately and stop the operation of sugar factory within 48 Hrs. in a safe manner."***

- As per the Form R.T. 8 (C) i.e. the final manufacturing report for the crushing season 2021-22 (Central Excise Rule 83) submitted to the Commissioner of Sugar, Pune it is observed that cane crushing for the season 2021-22 was started w.e.f. 27/10/2021 and end date of cane crushing was 28/04/2022. Total cane crushed and production details during the aforesaid cane crushing season is depicted in the below Table.

S. no.	Particulars	Quantity, MT
1.	Cane crushed	8,94,631.36
2.	Sugar	95,189
3.	Molasses	39,091.47
4.	Bagasse	2,58,210.4

- From the aforesaid report submitted to Commissioner of Sugar, Pune it is observed that the industry didn't stopped cane crushing on or before 12/02/2022 i.e. within 48 hrs from the date of issue of directions from MPCB.

- In response to the aforesaid directions of MPCB dated, 10/02/2022; the industry vide letter no. Central/Dist/57/1851/2021-22, dated 25/02/2022 submitted reply to MPCB. Wherein, it is observed that the industry didn't stopped cane crushing during the season 2021-22 by citing reasons about the excess sugar cane cultivation in the area, agreement made with shareholder farmers for buying sugar cane and also referring to the circular of Commissioner of Sugar, Maharashtra vide letter dated 08/02/2022 regarding not to stop the cane crushing until all the sugar cane is crushed (quantity

registered by various shareholder farmers). Relevant extract from the aforesaid letter dated 25/02/2022 is reproduced as below:

"..In season 2021-22, sugarcane production is increased in Maharashtra as compare to last two year due to the satisfactory rainfall and hence in our work-space, there is lot 'off sugarcane production for this crushing season. Now, we had crushed the 6.45 Lac MT of sugarcane in this crushing season and balance 2.75 Lac MT sugarcane is remaining & it is factory responsibility to crush the all sugarcane which is registered to our factory by our shareholder farmers.

Also, Hon'ble Commissioner of Sugar, Maharashtra state giving order that, do not stopped the crushing season until to crush all sugarcane, which is registered to sugar factory.."

However, it is observed from the aforesaid reply submitted dated 25/02/2022 to MPCB that the industry has stopped their distillery production activities during February, 2022 and later continued the operation of distillery. Copy of the aforesaid reply submitted by the industry vide dated 25/02/2022 to MPCB is given at **Annexure-4** for kind information.

- ***Direction no. 2 u/s 33A of the Water (Prevention & Control of Pollution) Act, 1974 and u/s 31A of the Air (Prevention & Control of Pollution) Act, 1981, dated 10/02/2022: "The Industry shall collect, transport, store and dispose the molasses spread/flown and contaminated soil due to the said incident in a scientific manner so as to avoid further contamination of groundwater, surface water and soil within 48 Hrs. The Industry shall submit concrete action plan immediately."***

- During joint committee inspection it was gathered and also based on the filed inspection report carried-out by MPCB vide dated 10/02/2022 that the incidence of blast at one of the molasses storage tank was occurred at 06.45 hrs on 10/02/2022. The industry has provided following tanks for storage and handling of molasses:

S. no.	Storage tank identity (based on license issued by the Excise Dept., Govt. of Maharashtra)	Capacity, MT	Remarks
1.	M-1	4,500	For production & sale
2.	M-1		For production & sale
3.	M-2		For production & captive use in distillery

- Based on the information submitted and discussion with Excise Sub-inspector, Excise Dept., it is observed that erstwhile M-2 tank (meant for production & captive use in distillery) was collapsed during December, 2018 due to structural failure. Subsequently, the industry has obtained permission from Excise Dept., to store the molasses in M-1 tank (meant for production & sale). All the molasses storage tank was commissioned during 1984 and last structural audit was conducted on 05/03/2021. On 10/02/2022, the M-1 tank consisting of molasses of about 4,100 MT was resulted in blast. It is gathered from the internal investigation report of industry that the molasses generated & stored during the last crushing season was having high brix (up to 60) and purity. It was concluded from the internal investigation report that due to absence of proper online cooling and stirring mechanism, an exothermic reaction took place with generation of unstable gases like SO_2, SO_3 and CO_2 and due to very high static pressure of dissolved gases, resulted in explosion of molasses storage tank.

- On account of explosion, the molasses was spread in the ETP area and also flown to the area i.e. barren land towards south-west direction (outside the compound wall, within the purview of industry) and ultimately to the malicha nalah.

Photograph-13: A view of area where molasses storage tank blast occurred.

Photograph-14: Area showing molasses spread near the ETP of sugar unit.

Photograph-15: Area showing molasses spread outside the compound wall (within industry land) and soil scrapped & levelled.

Photograph-16: A view of malicha nalah (natural drain) conatimanted with leachate from the molasses spilled area and also overflow from lined lagoons.

- The industry vide letter dated 10/02/2022 submitted action plan to MPCB for collection and management of spilled molasses i.e. water and soil contaminated with molasses. Wherein, the industry mentioned that in order to contain the spread of molasses and further contamination of water at downstream location; corrective measures were taken immediately after the incidence by creation of artificial earthen bund to the natural drain at Village:

Janglewadi (located app. 1 Km from the industry premises). Also, mentioned that molasses contaminated water and soil shall be removed with the help of tankers for further processing of molasses contaminated water in the ETP of distillery unit comprising of UASB (bio-digester) followed by MEE and molasses contaminated soil in the bio-compost preparation. Copy of action plan dated 10/02/2022 submitted by the industry to MPCB is given at **Annexure-5** for kind reference.

- It is gathered from the industry and also from the field inspection report of MPCB dated 10/02/2022 that on the day of incidence about 4,100 MT of molasses was spread within the industry premises and also flown to malicha nalah/natural drain. Also, it is observed from the subsequent field inspections carried-out by MPCB that the industry has initiated collection of molasses contaminated water & soil from the affected areas and nalah. It has been reported that the industry has re-collected ~54 MT (18 trips x 3 KL tanker capacity) of molasses (not contaminated with soil & water) in tankers through pumps during 11/02/2022 to 12/02/2022 and transferred to existing molasses storage tank for distillation. Further, the industry has created artificial earthen bund to the natural drain and collected ~ 2,340 MT (195 trips x 12 MT/trip) of molasses contaminated water in tankers through pumps during 15/02/2022 to 26/02/2022 and stored in 05 days spent wash impervious (concrete) lagoon. Similarly, the industry has collected ~9,915 MT (661 trips x 15 MT/trip) of molasses contaminated soil by scrapping top layer of soil (~10 cm) from 01 acre of own land and also scrapping the bottom layer of soil (~ 10 cm) from natural drain during 12/02/2022 to 02/03/2022 and transferred to the existing bio-compost yard. Further, the affected areas i.e. ETP area & outside compound wall (within the purview of industry) was topped with overburden soil, lime & bagasse etc. The industry has supplemented the details of no. of vehicles utilized, date and no. of trips covered regarding quantification for collection of molasses contaminated water & soil. The details of the same is provided at **Annexure-6** for kind reference.

- The molasses contaminated water was treated in the existing ETP of distillery comprising of UASB followed by concentration through MEE. The resultant concentrated stream from MEE was utilized in the bio-compost preparation by proportionating with concentrated spent wash. Similarly, the molasses contaminated soil was utilized by proportionating with the press mud & other additivities for preparation of bio-compost. Details about ratio/quantity of proportionating of concentrated stream of molasses contaminated water & soil with the press mud, spent wash & other additives and also final analysis results of prepared bio-compost was not made available to the joint committee.

- During joint committee inspection it was observed that the industry had re-collected molasses contaminated water & soil from affected areas and utilized in the bio-compost preparation during last cane crushing season only i.e. utilized till April, 2022. However, affected area especially near the ETP area of sugar unit i.e. compound wall of the industry, seepage of leachate was observed, leading to the natural drain. Also, it was observed that overflow of spent wash contaminated water from 30 days concrete lined spent wash storage lagoon was observed which is confluencing with the natural drain near the upstream location of natural drain.

- MPCB has issued show-cause notice to the industry vide dated 29/09/2022 for non-compliances of various environmental enactments and also forfeited bank guarantee of Rs. 25 Lakhs for the non-compliances of CTO conditions. Further, MPCB has issued interim directions to the industry u/s 33A of the Water (Prevention & Control of Pollution) Act, 1974 and u/s 31A of the Air (Prevention & Control of Pollution) Act, 1981, dated 17/10/2022 to:
    a. Carry-out assessment on contamination of soil, cost of remediation and damage assessment through NEERI/IIT/VSI within two months and comply with recommendations of such report before six months.
    b. OCEMS connectivity to MPCB server within 7 days.
    c. Not to dispose spent wash sludge.

Copy of interim directions issued by MPCB dated 17/10/2022 is given at **Annexure-7** for kind reference.

- Joint committee collected grab water/leachate contaminated water samples along the stretch of natural drain i.e. upstream & downstream locations from the molasses spread/affected areas and submitted to laboratory of MPCB at Nashik for analysis of various physico-chemical parameters viz. pH, EC, SS, TDS, Chloride, Sulphates, Phosphate, Potassium, COD, BOD & TKN. Analysis results of the same is yet to be received from MPCB. Details of sampling locations along the stretch of natural drain is depicted in the below photographs for kind reference.

Photograph-17: Water sample colelcted from upstream location of natural drain, prior mixing of leachate & overflow from lined lagoons.

Photograph-18: Overflow of spent wash containmnated water from the 30 days lined lagoon.

Photograph-19: Overflow of spent wash containmnated water from the bio-compost yard.

Photograph-20: Spent wash contaminated water sample colelcted from overflow stream, near compound wall of industry before joining the natural drain.

Photograph-21: Spent wash contaminated water sample colelcted from natural drain, near compound wall of industry.

Photograph-22: Water sample colelcted from downstream location of natural drain (about 700 m from the industry where overflow streams confluenced with the natural drain).

Photograph-23: Water sample colelcted from downstream location of natural drain (about 1 Km from the industry where overflow streams confluenced with the natural drain).

- ***Direction no. 3 u/s 33A of the Water (Prevention & Control of Pollution) Act, 1974 and u/s 31A of the Air (Prevention & Control of Pollution) Act, 1981, dated 10/02/2022: "The Industry shall not restart crushing operation till further order/directions of the Board & Competent Authorities."***

- The industry has not complied with the aforesaid direction, as the industry didn't stopped cane crushing activities during last season nor applied for restart permission.

4.0 Conclusions

i. The industry is an integrated sugar & distillery unit, located within the same premises and having separate CTO issued by MPCB. The CTO of industry (Sugar unit & Distillery unit) was expired on 31/07/2022 and 31/08/2022. As per the records of MPCB, the industry has applied for renewal of CTO of Sugar & Distillery unit, which are pending before MPCB.

ii. The industry (Sugar unit) in compliance to the Schedule-I of CTO dated 23/11/2021 i.e. Terms & conditions for compliance of Water Pollution Control has provided ETP of reported design capacity of 1,000 m^3/day comprising of primary, secondary & tertiary treatment system for treatment of process effluent. Also, CPU of reported design capacity of 1,200 m^3/day for treatment of excess condensate. The treated effluent from ETP is discharged for irrigation on 150 acre agricultural land (own & also pvt. land, as per bi-lateral agreement with farmers). Similarly, treated condensate from CPU is reused in utilities (cooling tower make-up) after treatment through softner. Excess treated condensate is channelized to fresh water reservoir for reuse in process (sugar & distillery unit). Also, the industry (Sugar unit) in compliance to Schedule-I of CTO dated 03/02/2021 i.e. G) CREP conditions for sugar factory; has initiated stabilization of ASP of ETP as well as ASP of CPU to achieve the desired MLSS concentration prior to starting of cane crushing activities of sugar unit.

iii. The industry (Distillery unit) in compliance to the Schedule-I of CTO dated 03/02/2021 i.e. Terms & conditions for compliance of Water Pollution Control has provided comprehensive treatment for volume reduction of spent wash consisting of bio-digester (UASB) of reported design capacity of 360 m^3/day followed by MEE followed by bio-composting on 05 acre concrete lined bio-compost yard. Biogas generated @ 350 – 450 m^3/hr from UASB is used as a supplementary fuel in co-gen boiler of sugar unit and excess biogas is flared in the flaring system. The concentrated spent wash (up to 45%) is utilized in preparation of bio-compost. Also, installed CPU of reported design capacity of 360 m^3/day for treatment of MEE condensate. Treated MEE condensate is reused in molasses dilution & fermenter make-up, recirculation pump cooling

& its accessories and utilities (cooling tower make-up) after treatment through softner.

iv. The industry (Sugar unit) has installed online continuous effluent monitoring system (OCEMS) at the final treated effluent conveyance pipeline of sugar unit for monitoring of parameters viz. pH, TSS, COD, BOD & Flow in compliance to the CPCB directions vide dated B-29016/04/06/PCI-I, dated 05/02/2014 and as per 1st Revised Guidelines for Online Continuous Effluent Monitoring Systems, July, 2018 of CPCB. Also, OCEMS is connected to CPCB & MPCB servers.

v. The industry (Sugar unit) has installed online continuous emission monitoring system (OCEMS) at the stack of co-gen boiler of sugar unit for monitoring of parameter i.e. PM in compliance to the CPCB directions vide dated B-29016/04/06/PCI-I, dated 05/02/2014 and as per 1st Revised Guidelines for Online Continuous Emission Monitoring Systems, August, 2018 of CPCB. Also, OCEMS is connected to CPCB & MPCB servers and status of its connectivity to servers have been communicated to MPCB vide email dated 23/08/2022.

vi. Further, the industry (distillery unit) has installed online flow meter at the spent wash conveyance pipeline to the 30 days lined spent wash storage lagoon and also installed PTZ camera at the 05 care bio-compost preparation yard. The aforesaid monitoring system is installed in compliance to the1st Revised Guidelines for Online Continuous Effluent Monitoring Systems, July, 2018 of CPCB. Wherein, it is mentioned that the industries claiming Zero discharge and not discharging effluent outside the premises shall to install Camera and flow meter at the discharge point from the channel / drain provided for carrying the effluent within the industry. Also, OCEMS is connected to CPCB & MPCB servers.

vii. It is observed from the Form R.T. 8 (C) i.e. the final manufacturing report for the crushing season 2021-22 (Central Excise Rule 83) submitted to the Commissioner of Sugar, Pune that cane crushing for the season 2021-22 was

started w.e.f. 27/10/2021 and end date of cane crushing was 28/04/2022. The industry has not complied to the directions issued by MPCB i.e. didn't stopped cane crushing on or before 12/02/2022 i.e. within 48 hrs from the date of issue of directions from MPCB by referring to the circular issued by the Commissioner of Sugar, Maharashtra vide letter dated 08/02/2022.

viii. Based on the aforesaid Form R.T. 8 (C) that total cane crushed during last crushing season is exceeding the consented capacity of 3,500 TCD (4,858 > 3,500 TCD). It was gathered that the industry has communicated to MPCB vide letter dated 28/01/2022 with a request for amendment in their CTO i.e. to grant cane crushing capacity of 4,800 TCD, instead of making an CTE application for expansion in the cane crushing capacity. Later, the industry made a CTE application to MPCB vide dated 20/04/2022 for expansion of cane crushing capacity from the existing 3,500 to 7,500 TCD. Accordingly, MPCB during the CAC meeting vide dated 24/06/2022 had considered the CTE expansion application of the industry and also noted the various violations done by the industry. After due deliberation, CAC of MPCB decided to grant CTE expansion for cane crushing from existing 3,500 to 7,500 TCD with a condition to submit a bank guarantee of Rs. 25 Lakhs for compliance towards consent conditions.

MPCB has issued show-cause notice to the industry vide dated 29/09/2022 for non-compliances of various environmental enactments and also forfeited bank guarantee of Rs. 25 Lakhs for the non-compliances of CTO conditions.

ix. MPCB has issued interim directions to the industry u/s 33A of the Water (Prevention & Control of Pollution) Act, 1974 and u/s 31A of the Air (Prevention & Control of Pollution) Act, 1981, dated 17/10/2022 to carry-out assessment on contamination of soil, cost of remediation and damage assessment through NEERI/IIT/VSI. The industry vide letter dated 22/10/2022 issued the work order to M/s VSI, Pune for carrying out soil contamination assessment study including damages to recipient environment and remedial measures thereto.

x. Prima-facie the explosion of molasses storage tank occurred due to the end of life of storage tank, as the storage tanks were commissioned during 1984 followed by inadequate operation & maintenance of storage tanks. Also, as reported by the industry's internal investigation team that due to absence of proper online cooling and stirring mechanism, an exothermic reaction took place with generation of unstable gases like SO_2, SO_3 and CO_2 and due to very high static pressure of dissolved gases, resulted in explosion of molasses storage tank.

xi. On account of explosion, the molasses was spread in the ETP area and also flown to the area i.e. barren land towards south-west direction (outside the compound wall, within the purview of industry) and ultimately to the malicha nalah/natural drain. The industry immediately contained the spread of molasses by creating artificial earthen bund at the natural drain and re-collected ~ 2,340 MT of molasses contaminated water and transferred to 05 days lined spent wash storage lagoon. Also, collected ~9,915 MT of molasses contaminated soil by scrapping top layer of soil (~10 cm) from 01 acre of own land and also scrapping the bottom layer of soil (~ 10 cm) from natural drain and transferred to the existing bio-compost yard. Collected molasses contaminated water is treated in existing ETP of distillery unit and utilized in bio-compost preparation. Similarly, collected molasses contaminated soil is utilized by proportionating with the press mud & other additivities for preparation of bio-compost.

xii. During joint committee inspection, old brick lined (13,500 m^3 capacity) spent wash storage lagoons was found filled with sludge & spent wash contaminated water. Also, the new concrete lined 30 days spent wash storage lagoon was found filled with spent wash contaminated water. Apparently, the industry has not completely utilized the spent wash generated during the last operational season of distillery. Also, not de-suldged the old brick lined lagoon. The unutilized concentrated spent wash of last season was about 3,230 MT. Further, on an account of heavy rain (about 735.33 mm) occurred during June, 2022 till 17th October, 2022 in the area; had resulted in overflow of spent wash contaminated water from the lagoons into adjoining low lying

area and also into the natural drain. The industry has recollected overflowed spent wash contaminated water through pumps from low lying areas and channelized into exiting 30 days lined storage lagoon. As per the information submitted, about 6,286 MT of spent wash contaminated water is stored in the 30 days lined spent wash storage lagoon. Apparently, the stored quantity is even more; as the capacity of 30 days storage lagoon is 8,380 m^3 and it was evident that during joint committee inspection lagoon water overflow was observed.

xiii. Joint committee collected grab water/leachate contaminated water samples along the stretch of natural drain i.e. upstream & downstream locations from the molasses spread/affected areas and submitted to laboratory of MPCB at Nashik for analysis of various physico-chemical parameters viz. pH, EC, SS, TDS, Chloride, Sulphates, Phosphate, Potassium, COD, BOD & TKN. Analysis results of the same is yet to be received from MPCB. Upon receipt of analysis results, the agency engaged i.e. M/s VSI, Pune may consider the same to assess the extent of contamination and also while preparing remedial measures thereto.

5.0 Recommendations

Based on the joint committee inspection, observations & findings w.r.t environmental management system installed for treatment of effluent and present compliance status w.r.t. collection & management of molasses contaminated water & soil; the industry may be directed through MPCB to:

i. Immediately expedite the execution of work w.r.t. carrying out soil contamination assessment study including damages to recipient environment and remedial measures thereto. Further, to ensure the implementation of recommendations if any; of aforesaid study report in a time bound manner and be verified by MPCB.

ii. Distillery operations shall not be permitted during the present season until the remaining spent wash contaminated water stored in the 30 days lined spent wash storage lagoon; old brick lined spent wash storage lagoon and leachate

collection pit of bio-compost yard, are completely treated in the existing ETP of distillery i.e. through UASB (bio-digester) followed by concentration in MEE. Resultant concentred effluent shall be utilized in preparation of bio-compost along with press mud.

iii. Expedite to make an application to the Competent Authority i.e. SEIAA, Maharashtra for obtaining Environmental Clearance (EC) for expansion of cane crushing capacity from existing 3,500 to 7,500 TCD. Further, till expansion EC is obtained from SEIAA, Maharashtra the cane crushing capacity may be restricted to the consented capacity of 3,500 TCD as per CTO of MPCB.

iv. De-sludge the accumulated sludge from the old brick lined spent wash storage lagoon and the sludge shall be managed in existing sludge drying beds of ETP. The dried sludge may be proportionated with press mud for preparation of bio-compost, upon examining the feasibility through the aforesaid engaged agency i.e. M/s VSI, Pune. Also, to dismantle the old brick lined spent wash storage lagoon before starting distillery operation.

v. Provide adequate free board to the 30 days lined spent wash storage lagoon. Also, to always keep the level of spent wash in the 30 days lined spent wash storage lagoons well below the upper ridge of the lagoon so as to ensure no possibility of run-off/overflow.

vi. Ensure that concentrated spent wash generated shall be completely utilized in preparation of bio-compost during non-monsoon season i.e. within 270 days of total operational period. Further, at the end of each season accumulated sludge shall be removed and managed in existing sludge drying beds of ETP. Upon start of distillery season, the dried sludge may be may be proportionated with press mud for preparation of bio-compost.

vii. Obtain valid registration/certification for the production and ensure the quality of bio-compost (bio-enriched organic manure) as per Gazette Notification SO. 2776 (E), dated 10/10/2015 under the Fertilizer (Control) Fourth Amendment

Order, 2015 issued by Ministry of Agriculture and Farmers Welfare (Dept. of Agriculture, Cooperation and Farmers Welfare.

viii. Ensure compliance of show-cause notice dated 29/09/2022 issued by MPCB w.r.t. dismantling of 04 no. of old boilers.

ix. In order to prevent the re-occurrence of explosion/blast of molasses storage tanks; necessary safety audits especially w.r.t. structural stability shall be conducted through the competent person before staring of cane crushing/distillery operations. Also, adequate online water cooling & stirring mechanism may be provided to ensure the optimum temperature inside the molasses storage tank.

x. Dyke area of sound construction should be provided to the storage tanks, wherever possible, so that all contents of the tank, in case of partial or full rupture accident, can be enclosed in the dyke. Each dyke should have roads all around for access during emergency scenarios. In case such dykes are not possible, necessary arrangement shall be in place to contain spillages from such tanks and channelizing the same to a safe impervious storage facility within the plant premises.

(Nishchal C.) Scientist 'D' CPCB, RD-Pune	(Chandrakant Shinde) Sub-Regional Officer MPCB, Ahmednagar	(Sudhakar Bhosle) SDM, Ahmednagar as representative of District Collector, Ahmednagar

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ANNEXURE R-7

MAHARASHTRA POLLUTION CONTROL BOARD

Minutes of Part-I 6th Consent Appraisal Committee Meeting of 2022-2023 held on 30.08.2022 at MPCB, Mumbai.

Following members of the Consent Appraisal Committee were present:

1. Shri. A. L Jarhad, Chairman — Chairman
2. Shri Ashok Shingare, Member Secretary, M.P.C. Board. — Member
3. Shri P.K. Mirashe, Technical Advisor, MIDC. — Member
4. Dr. Y. B. Sontakke, Joint Director (WPC), M.P.C. Board, Mumbai. — Member Convener
5. Additional Chief Secretary, Home (Transport) Dept., Mumbai & Representative from NEERI - leave of absence was granted.

Following Officer of MPCB were present for the meeting:

1. Shri V.M. Motghare, Joint Director (APC), M.P.C. Board, Mumbai. — Invitee Member
2. Shri N.N. Gurav, Regional Officer (BMW), M.P.C. Board, Mumbai. — Invitee Member

Chairman of the committee welcomed the members of the committee and allowed proceeding of the meeting to start.
The meeting thereafter deliberated on the fresh agenda items [Booklet No. 36 of Consent to Renewal cases] placed before the committee and following decision were taken:

Sr. No.	Application Unique Number	Industry name and Address	Decision on grant of consent	Consent granted Up to	Remarks / Discussion
	Booklet No. 36				
1	MPCB-CONSENT-0000102172	Kisanveer Satara Sahakari Sakhar Karkhana Ltd.,Bhuinj Tal.Wai, Dist.Satara. 412 Kisanveernagar Wai	**APPROVED** Renewal of Consent	31.08.2023	Committee noted that, PP has applied for renewal of consent for distillery activity for 40 KLD+60KLD total-100 KLPD capacity. Committee also noted that, the case is discussed in earlier CAC and decided to issue SCN for Refusal. Committee further noted that, PP submitted reply and stated that, they submitted BG of Rs. 10 lakh. They provided web camera and flow meter and same is connected to MPCB server. They provided 11.41 acers of concreated compost yard as per CPCB guidelines and stored spent wash in tanker due to maintains work of lagoon. They Scrapped all Kachha Lagoon. They Already install wet scrubber. SRO Office submitted Verification and submitted that. i) Provided 11.41 acers of concreated compost yard as per CPCB guidelines. II)) 2 Kachha Lagoon yet not scrapped. iii) Provided OCMS (Web Camara), but not connected to MPCB server. After due deliberation, it was decided to grant of renewal of consent to operate by imposing following conditions: 1. Industry shall connect OCMS before start production. 2. Industry shall dispose spent wash as per consent condition. 3. Industry shall not operate unit without valid consent of the Board. 4. Industry shall scrap all kaccha lagoon in next 6 months. 5. Industry shall submit/extend Bank Guarantee of Rs.

Sr. No.	Application Unique Number	Industry name and Address	Decision on grant of consent	Consent granted Up to	Remarks / Discussion
					25.0 Lakh towards Compliance of Consent conditions and O&M of Pollution Control System.
2	MPCB-CONSENT-0000123001	GENEXT HARDWARE & PARKS PVT. LTD. Sub Plot B, of CS No.1903,1904,1905 ,1/1905&2/1905 Building No. 2 on sub plot B, of CS No. 1903, 1904,1905,1/1905 & 2/1905 of Byculla Division, Sane Guruji Marg, Near Jacob Circle, Mahalaxmi, Mumbai Mumbai	**NOT APPROVED** Renewal of Consent to Operate (Part-I)	-----	Committee noted that, PP has applied for grant of Renewal of Consent to Operate (Part-I) for Residential Building. No. 2 i.e. Tower D having Total plot area of 61,520.46 Sq.m and Total construction BUA of 65,805.90 Sq.m out of TCBUA of 2,05,546.42 Sq.m. Committee also noted that PP has obtained EC, provided STP and OWC. Committee further noted that PP has not submitted an audited balance sheet and pointwise compliance verification report of Environment Clearance conditions. After due deliberation it was decided to issue Show Cause Notice for Refusal of Renewal of Consent to Operate (Part-I) fo above non-compliances.
3	MPCB-CONSENT-0000127537	M/s. KOHINOOR CTNL-Infrastructure Company Private Limited KOHINOOR SQUAREâ€□ Kohinoor Mill Co. Ltd, No. 3, F. P. No. 46 of Mahim Division, Junction of N. C. Kelkar Marg and Lady	**APPROVED** Revalidation of Consent to Establish	**Commissioning of the project or 5 years whichever is earlier.**	Committee noted that, PP has applied for grant of Revalidation of Consent to Establish for Construction of Residential & Commercial project with public parking having Total plot area of 19,859.04 Sq.m and Total Construction BUA of 2,45,473.60 Sq.m. Committee also noted that PP has obtained Revalidation of EC, proposed to provide STP and OWC followed by composting facility. After due deliberation it was decided to grant Revalidation of

Sr. No.	Application Unique Number	Industry name and Address	Decision on grant of consent	Consent granted Up to	Remarks / Discussion
		Jamshetji Marg, Dadar (W), Mumbai-400028.			Consent to Establish by imposing following conditions. 1. PP shall provide STP of adequate capacity to achieve the treated domestic effluent standard for the parameter BOD-10 mg/lit including disinfection facility. 2. The treated sewage shall be 60% recycled for secondary purposes such as toilet flushing, air-conditioning, cooling tower make up, firefighting etc. and remaining shall be utilized on land for gardening and/ or connected to local body sewer line with water metering system. 3. PP shall provide organic waste digester along with composting facility/bio-digester (biogas) for the treatment of wet garbage. 4. PP shall make provision of charging ports for electric vehicles at least 40% of total available parking slots. 5. PP shall submit BG of Rs. 25 Lakh towards compliance of EC and Consent conditions. Consent may be issued after receipt of penal fees for delay in applying.
4	MPCB-CONSENT-0000132485	CIPLA LIMITED A-42 MIDC PATALGANAGA KHALAPUR	**APPROVED** Renewal of Consent	30.04.2024	Committee noted that, PP has applied for renewal of consent for API & Intermediates. Committee also noted that, the said case was earlier discussed in CAC meeting held on 24/6/2022 and issued SCN on 08/8/2022 for non-submission of mfg process, status of EC, Adopting Cleaner fuel & additional fee. Accordingly, PP has submitted reply in which submitted

Sr. No.	Application Unique Number	Industry name and Address	Decision on grant of consent	Consent granted Up to	Remarks / Discussion
					detailed mfg process, EC not applicable as established prior to EIA Notification, made agreement with Mahanagar Gas to switch over to cleaner fuel. Committee further noted that, PP has provided ETP followed by RO & MEE installed and treated effluent (30 CMD) recycled & remaining 130 CMD connected to CETP- JVS within limit. Also, provided, Air Pollution control systems and disposal of HW as per consent conditions. After due deliberation, it was decided to consider the case for grant of renewal of Consent to Operate by imposing following conditions: 1. Industry shall operate effluent treatment scientifically to achieve the consented norms 2. Industry shall partly recycle (30 CMD) the treated effluent and remaining shall be discharged to CETP after confirming the consented standards. 3. Industry shall dispose the Hazardous Waste as per the provision of H&OW Rule by adopting online manifest system. 4. Industry shall submit/extend Bank Guarantee of Rs. 25.0 Lakh towards O&M of Pollution Control System.
5	MPCB-CONSENT-0000135348	Pauni II Expansion OC Near Sakhari Village, Tal-Rajura, Dist-Chandrapur.	**APPROVED** Renewal of consent with increase in CI	31.03.2023	Committee noted that PP has applied for renewal of consent for open cast coal mine-3.25 MTPA. Committee also noted that earlier the case was discussed in CAC meeting held on 24.06.2022 & it was decided to issue show cause notice for refusal of consent towards non-compliance of consent & EC conditions. Board has issued show cause notice vide letter dated 15.07.2022. PP has

Sr. No.	Application Unique Number	Industry name and Address	Decision on grant of consent	Consent granted Up to	Remarks / Discussion
					submitted the reply of SCN vide email dated 21.07.2022. After due deliberation, it was decided to grant consent renewal of consent for Open cast Coal Mine- 3.25 MTPA by imposing following conditions- 1. By forfeiting the BG of Rs.15 lakh towards noncompliance of consent and EC conditions viz. Non submission of action plan to implement off pit conveyor system, non-provision of tyre wash system & mechanised sweeping machine and non-submission of valid NOC of CGWA. 2. By forfeiting the BG of Rs.10.0 Lakh towards exceeding the AAQM results. 3. PP shall submit the action plan to implement off pit conveyor system i.e. from CHP to railway siding with silo loading facility in 3 years (i.e. 2023) as per EC conditions within a month and submit the BG of Rs.10.0 Lakh towards compliance of same. 4. PP shall submit the valid NOC of CGWA within six month and submit the BG of Rs.5.0 Lakh towards compliance of same. 5. PP shall provide the Mechanized sweeping machine for cleaning of road dust and submit the BG of Rs.5.0 Lakh towards compliance of same. 6. PP shall install Tyre wash system at mine entry/exit point and submit the BG of Rs.5.0 Lakh towards compliance of same. 7. Coal transportation road shall be repaired and remove the coal dust accumulated in the area. Maintenance of roads shall be done regularly. Also, regular cleaning and wetting of the roads shall be

Sr. No.	Application Unique Number	Industry name and Address	Decision on grant of consent	Consent granted Up to	Remarks / Discussion
					done. 8. PP shall submit the BG as per the BG regime of mine.
6	MPCB-CONSENT-0000137137	Bilt Graphic Paper Products Ltd. Unit Bhigwan MIDC Plot No.A-1/1, A-1/2, A-1/3 and B -1 Bhadalwadi - Paundhwadi Near Bhigwan Indapur	**APPROVED** Renewal of Consent	30.06.2026	Committee noted that, PP has applied for renewal of consent for Paper and Coated Paper (By using readymade pulp as a raw material) and 60 MW power generation. Committee also noted that, PP has provided ETP consist of primary, secondary & tertiary treatment having capacity 22500 CMD. Primary – Biological reactor – Sec. clarifier (2 No.) – Tertiary clarification- Tertiary treatment. JVS results are within limit. After due deliberation, it was decided to consider the case for grant of renewal of consent to operate by imposing following conditions: 1. Industry shall recycle treated effluent in maximum extent in process and remaining for irrigation purpose. 2. Industry shall not use Furnace oil as fuel as per Board Circular dtd. 05.02.2020. 3. Industry shall submit/extend Bank Guarantee of Rs. 25.0 Lakh towards Compliance of Consent conditions and O&M of Pollution Control System
7	MPCB-CONSENT-0000110179	P. D. E. A's Ayurved Rugnalaya & Streling Meltispeciality Hospital Near Bhel Chowk, Nigdi Pradhikaran,	**NOT APPROVED** Combined Consent & BMW Authorization, Consent to	-----	Committee noted that HCE has applied for Renewal of combine consent and authorization for Hospital activity for 220 Beds with Total plot area 5618 Sq. Mtrs and BUA 4950 Sqm with CI of Rs.4.68 Crs. Committee also noted that earlier Renewal of Consent to

Sr. No.	Application Unique Number	Industry name and Address	Decision on grant of consent	Consent granted Up to	Remarks / Discussion
		Pune-411044	Renewal		Operate obtained dated 16.05.2019 which was valid up to 31.03.2020 for 220 beds. STP of 50 CMD capacity is provided and primary ETP of 3 CMD provided. Committee further noted that HCE operating without valid consent, Not submitted BG as per earlier consent conditions. Full-fledged ETP not provided. HCE does not have valid BHNS. After dud deliberation, it was decided to issue show cause notice for refusal of consent on above mention non-compliances.
8	MPCB-CONSENT-0000137203	The Saswad Mali Sugar Factory Ltd 13B Malinagar Malshirash	**APPROVED** Renewal of Consent	31.08.2024	Committee noted that, PP has applied for Renewal of Consent for Ethanol unit 600 KL/M. Committee also noted that, the generated effluent in the form of condensate is 100% recycle in process. After due deliberation, it was decided to consider the case for grant of renewal of consent to operate by imposing following conditions: 1. Industry shall submit/extend Bank Guarantee of Rs. 5.0 Lakh towards Compliance of Consent conditions and O&M of Pollution Control System
9	MPCB-CONSENT-0000139593	DR. BHAUSHAEB SARDESAI TALEGAON RURAL HOSPITAL & M.I.M.E.R	**APPROVED** Combined Consent & BMW Authorization,	31.05.2023	Committee noted that HCE has applied for combine consent and authorization for construction project and Hospital activity for 800 Beds with Total plot area 159949 Sq. Mtrs and BUA 45381 Sqm with CI of Rs. 84.74 Crs.

Sr. No.	Application Unique Number	Industry name and Address	Decision on grant of consent	Consent granted Up to	Remarks / Discussion
		MEDICAL COLLEGE & MAEER'S COLLEGE PHYSIOT TALEGAON DABAHDE	Consent to Renewal		Committee also noted that earlier Renewal of Consent to Operate obtained dated 02.02.2022 which was valid up to 31.05.2022. STP of 300 CMD capacity is provided and ETP of 10 CMD provided. After dud deliberation, it was decided to grant Combined Consent to Operate with BMW authorization for 800 Beds, by imposing following conditions: 1. Industry shall submit/extend Bank Guarantee as per BG regime for Health Care Establishment. 2. Health Care Establishment shall provide full-fledge ETP for treatment of trade effluent. 3. PP shall provide pre-treatment for yellow category waste.
10	MPCB-CONSENT-0000139982	Gangamai Industries And Constructions Ltd. (GIACL) 6,222/3,223,224,225, /1,225, /2,225, /3,232,233 Najik Babhulgaon, Post-Rakshi Shevgaon	**APPROVED** Renewal of Consent	31.07.2023	Committee noted that PP has applied for Renewal of Consent for 5500 TCD sugar & 32 MW co-generation unit with C.I. of Rs. 209.54 Crs. Committee also noted that consent to operate dt: 22.10.2021 for 5500 TCD sugar & 32 MW co-generation unit which was valid up to 31.07.2022. After due deliberation, it was decided to grant renewal of consent for 5500 TCD sugar & 32 MW cogeneration unit, by imposing following conditions: 1. Industry shall comply with the PD conditions within 3 months. 2. Industry shall submit/extend Bank Guarantee of Rs. 25

Sr. No.	Application Unique Number	Industry name and Address	Decision on grant of consent	Consent granted Up to	Remarks / Discussion
					lakh towards O & M of pollution control systems and compliance of consent conditions.
11	MPCB-CONSENT-0000138683	Ashok Sahakari Sakhar Karkhana Limited,Ashoknagar 165,172,157 P Ashoknagar Shrirampur	**APPROVED** Renewal of Consent	31.07.2023	Committee noted that PP has applied for Renewal of Consent for 2500 TCD sugar & 15 MW co-generation unit with C.I. of Rs. 147.8679 Crs. Committee also noted that JVS results dated 25.11.2021 & 21.03.2022 are within consented standards After due deliberation, it was decided to grant Renewal of Consent for 2500 TCD sugar & 15 MW cogeneration unit with C.I. of Rs. 147.8679 Crs., by imposing following conditions: 1. By forfeiting appropriate Bank Guarantee towards JVS exceedance and top-up with double BG towards O & M of pollution control system and compliance of consent conditions. 2. Industry shall operate Tertiary treated system of effluent treatment system (ETP). Consent shall be issued after submission of Bank Guarantee as per earlier consent conditions.
12	MPCB-CONSENT-0000139916	Shri Gurudatt Sugars Ltd., Gat No 61/A Gat No 61/A Shirol	**APPROVED** Renewal of Consent	31.08.2023	Committee noted that, PP has applied for grant of Renewal of Consent for Distillery unit of 225 KLPD by using C-Molasses, B-Molasses & Juice/syrup. Committee also noted that, The unit provided MEE & Incineration boiler to achieve ZLD.

Sr. No.	Application Unique Number	Industry name and Address	Decision on grant of consent	Consent granted Up to	Remarks / Discussion
					After due deliberation, it was decided to grant of renewal of consent to operate by imposing following conditions: 1. Industry shall submit/extend Bank Guarantee of Rs. 25.0 Lakh towards Compliance of Consent conditions and O&M of Pollution Control System
13	MPCB-CONSENT-0000139930	Shri Gurudatt Sugars Ltd., Gat No. 61/A Gat No 61/A, Akiwat Takaliwadi Road Shirol	**APPROVED** Renewal of Consent	31.07.2023	Committee noted that, PP has applied for grant of Renewal of Consent for Sugar unit 6000 TCD & 21 MW Cogeneration. Committee also noted that, the unit provided ETP comprising Bar Screen, Oil & Grease Trap, Oil Skimmer, Equalization tank. Anaerobic Tanks, USAB, Primary Aeration Tanks with diffused aeration system, primary Clarifier, Secondary Aeration Tank, Secondary Clarifiers Dual Media Filter, Treated Sump, 15 days storage tank, air blowers etc. JVS of existing sugar unit are within consented limits, except one. JVS of Source emission are within limit. After due deliberation, it was decided to consider the case for grant of Renewal of Consent for Sugar unit 6000 TCD & 21 MW Cogeneration, by imposing following conditions: 1. Industry shall submit/extend Bank Guarantee of Rs. 25.0 Lakh towards Compliance of Consent conditions and O&M of Pollution Control System. 2. Industry shall provide scientific storage with proper APC for ash.
14	MPCB-	Vitthalrao shinde	**APPROVED**	31.08.2023	Committee noted that, PP has applied for grant of Renewal

Sr. No.	Application Unique Number	Industry name and Address	Decision on grant of consent	Consent granted Up to	Remarks / Discussion
	CONSENT-0000140410	ssk ltd Gat no-415,417,418,419 Gangamainagar-pimpalner Madha	Renewal of Consent		of Consent for the 150 KLPD Distillery. Committee also noted that, PP Provided MEE & Bio-composting. 20% raw spent wash is utilized for Bio composting i.e 300 CMD in crushing season & Balance 1200 CMD is treated in MEE & concentrated wash is (350 CMD) is used as fuel in incineration boiler. In off-season total 1500 CMD is treated in MEE (450 CMD Conc. Spent wash) is used as fuel in incineration boiler. Industry also provided CPU for condensate and other effluent. After due deliberation, it was decided to grant of Renewal of Consent for the 150 KLPD Distillery by imposing following conditions: 1. Industry shall submit/extend Bank Guarantee of Rs. 25.0 Lakh towards Compliance of Consent conditions and O&M of Pollution Control System.
15	MPCB-CONSENT-0000140268	Urjankur Shree Datta Power Company Ltd., 251 Gat No. 251, Dattanagar Shirol Shirol	**APPROVED** Renewal of Consent	31.07.2026	Committee noted that, PP has applied for grant of Renewal of Consent for manufacturing of Electric Power (Co-gen) – 36 MW. Committee also noted that, PP Provided ETP of capacity 480 CMD comprising primary & tertiary treatment. The JVS result of ETP outlet is well within the limit. Industry has provided ESP to bagasse/coal fired Boiler with stack height 100 Mtr. The source emission is within limit for the parameter TPM. After due deliberation, it was decided to grant of Renewal of

Sr. No.	Application Unique Number	Industry name and Address	Decision on grant of consent	Consent granted Up to	Remarks / Discussion
					Consent for manufacturing of Electric Power (Co-gen) – 36 MW, by imposing following conditions: 1. Industry shall submit/extend Bank Guarantee of Rs. 25.0 Lakh towards Compliance of Consent conditions and O&M of Pollution Control System. 2. Industry shall ensure the disposal of fly ash as per the fly ash notification, 2016 & amended thereof to achieve 100% utilization of fly ash including bottom ash.
16	MPCB-CONSENT-0000140358	SIDDHANATH SUGAR MILLS LTD 167/1,167/2 TIRHE NORTH SOLAPUR	**APPROVED** Renewal of Consent	31.07.2023	Committee noted that, PP has applied for grant of Renewal of Consent for 6000 TCD & 26 MW. Committee also noted that, PP Provided ETP of capacity 600 CMD Consisting of Primary, secondary & tertiary treatment. The JVS result of ETP outlet is well within the limit. Industry provided CPU for excess condensate and recycled the treated water in process. Industry has provided ESP to bagasse fired Boiler with stack height 65 Mtr. After due deliberation, it was decided to grant of Renewal of Consent for 6000 TCD & 26 MW., by imposing following conditions: 1. Industry shall submit/extend Bank Guarantee of Rs. 25.0 Lakh towards Compliance of Consent conditions and O&M of Pollution Control System.
17	MPCB-CONSENT-	GMR Warora Energy Ltd.,	NOT APPROVED	--	Committee noted that PP has applied for renewal of consent

Sr. No.	Application Unique Number	Industry name and Address	Decision on grant of consent	Consent granted Up to	Remarks / Discussion
	0000140106	Plot No. B1 & B7, Mohbala MIDC Crowth Centre, Post Warora,Tal-Warora Dist-Chandrapur.	Renewal of consent to operate with increase in CI (Auto Renewal Application)		to operate (Auto renewal) for Electricity Generation-2x 300 MW (coal based thermal power Plant)- 600 MW. Committee further noted that PP has provided the ESP to both boiler unit with bi-flue stack having height 275 meter. Dust extraction and dust suppression system is provided to the CHP and ash handling plant. Provided 3 x 1500 MT capacity RCC silo for storage of dry fly ash. OCEMS is provided to the Stack and CAAQMS-3 nos are provided. Fly ash utilisation for the year 2020-2021 is 100%. Provided ETP and STP. Committee also noted the following Non compliances – 1. STP of adequate capacity is not provided for treatment of domestic effluent-384 CMD. 2. Details of specific water consumption is not submitted. 3. Justification about increase in CI is not submitted. 4. The details of ETP and its unit with capacity are not furnished for treatment of effluent generated from boiler blow down, cooling tower blow down, DM plant, Washing effluent, Ash handling and back wash from filters. Also not provided details of recycle system and ash water recovery system. 5. As per the online stack monitoring results, SO2 emission is in the range of 900-1400 mg/Nm3 against the standards of 600 mg/Nm3. 6. Very less quantum of HW- sludge arises from ETP is disposed to CHWTSDF.

Sr. No.	Application Unique Number	Industry name and Address	Decision on grant of consent	Consent granted Up to	Remarks / Discussion
					7. Coal having ash & sulphur content more than 34 % & 0.5% respectively is being utilised. After due deliberation, it was decided to defer the case and issue show cause notice for refusal of consent towards non-compliance of consent conditions.
18	MPCB-CONSENT-0000140464	Padmabhushan Krantiveer Dr. Naganath Anna Nayakawdi Hutatma Kisan Ahir Sah. Sakhar Karkhana Ltd 461/1+2A, 456,460 Nanaganatha Anna Nagar Walwa Walwa	**APPROVED** Renewal of Consent	31.07.2023	Committee noted that, PP has applied for grant of Renewal of Consent for 5000 TCD Sugar unit. Committee also noted that, PP Provided ETP of capacity 600 CMD Consisting of Primary, secondary & tertiary treatment. The JVS result of ETP outlet is well within the limit. Industry has provided Wet scrubber as APC. After due deliberation, it was decided to grant of Renewal of Consent for 5000 TCD Sugar unit., by imposing following conditions: 1. Industry shall submit/extend Bank Guarantee of Rs. 25.0 Lakh towards Compliance of Consent conditions and O&M of Pollution Control System.
19	MPCB-CONSENT-0000140563	Padmabhushan Krantiveer Dr. Naganathanna Nayakwadi Hutatma Kisan Ahir Sahakari Sakhar Karkhana Ltd	**APPROVED** Renewal of Consent	31.08.2025	Committee noted that, PP has applied for grant of Renewal of Consent for 30 KLPD Distillery Unit. Committee also noted that, PP Provided Bio-digester followed by MEE followed by Bio-composting. Having 5.5 Acre compost yard with leachate collection system as per CREP guidelines.

Sr. No.	Application Unique Number	Industry name and Address	Decision on grant of consent	Consent granted Up to	Remarks / Discussion
		1012 Naganathanna Nagar; Walwe Walwa			After due deliberation, it was decided to grant of Renewal of Consent for 30 KLPD Distillery Unit., by imposing following conditions: 1. Industry shall submit/extend Bank Guarantee of Rs. 25.0 Lakh towards Compliance of Consent conditions and O&M of Pollution Control System.
20	MPCB-CONSENT-0000140201	Quinergy Industries Ltd. [Operative Of Bhausaheb Birajdar SSK Ltd.] Sr.No.18.19.22.23 & 65 Samudral [Kon] Omerga	**NOT APPROVED** Renewal of Consent	-----	Committee noted that PP has applied for Renewal of Consent for 4000 TCD sugar unit with C.I. of Rs. 157.7759 Crs. Committee also noted that JVS results are exceeding consented standards, consumption of water mention in CGWA NOC, not submitted Bank Guarantee and not provided CPU. After due deliberation, it was decided to issue show cause notice for refusal of consent on above mention non-compliances.
21	MPCB-CONSENT-0000139553	INDRESHWAR SUGAR MILLS LTD 308/4,308/5,310,311 BHAGAWANTNAGAR BARSHI	**APPROVED** Renewal of Consent	31.07.2023	Committee noted that, PP has applied for grant of Renewal of Consent for 2500 TCD sugar unit & 12 MW cogeneration unit. Committee also noted that, PP Provided ETP with primary secondary & tertiary system. JVS reports are within limit. Committee further noted that Regional officer issued SCN on 11.03.2022 for non-compliances.

Sr. No.	Application Unique Number	Industry name and Address	Decision on grant of consent	Consent granted Up to	Remarks / Discussion
					After due deliberation, it was decided to grant of Renewal of Consent for 2500 TCD sugar unit & 12 MW cogeneration unit., by imposing following conditions: 1. Industry shall submit/extend Bank Guarantee of Rs. 25.0 Lakh towards Compliance of Consent conditions and O&M of Pollution Control System.
22	MPCB-CONSENT-0000140615	United Breweries Ltd Plot No. M-1, M-1/Part, M-1/Part-1, M-1/Part-II MIDC Taloja Panvel	**APPROVED** Renewal of Consent	31.10.2027	Committee noted that, PP has applied for grant of Renewal of Consent for Beer manufacturing. Committee also noted that, PP Provided ETP with Primary and Secondary ETP comprising of Screen chamber, Equalization cum neutralization tank, Primary clarifier, Buffer tank, UASB Reactor with flare system, Aeration tank, Secondary clarifier, Sludge thickener. Provided online monitoring system at ETP outlet, U-trap, strainer, and positive discharge system. Also provided NRV valve and autosampler at ETP outlet. JVS reports are within limit except TDS. After due deliberation, it was decided to grant of Renewal of Consent for Beer Manufacturing for short period., by imposing following conditions: 1. By forfeiting the BG of Rs. 2 lakh for exceedance of JVS and obtain total BG of Rs. 25 Lakh towards compliance of consent conditions and operation and maintains of pollution control systemand O&M of Pollution Control System. 2. PP shall submit upgradation plan for ETP within period of 3 months and shall be implemented in next 3 months.

Sr. No.	Application Unique Number	Industry name and Address	Decision on grant of consent	Consent granted Up to	Remarks / Discussion
23	MPCB-CONSENT-0000140858	Dr.Patangrao Kadam Sonhira Sahakari Sakhar Karkhana Ltd.Mohanrao Kadam Nagar Wangi. 2709,2782,2786,2798,2811 WANGI KADEGAON	**APPROVED** Renewal of Consent	31.07.2023	Committee noted that, PP has applied for grant of Renewal of Consent for 7000 TCD cap Sugar & 22.0 MW Cogeneration unit. Committee also noted that, PP Provided ETP with primary secondary & tertiary system. JVS reports are within limit. PP has installed CPU for treatment of excess condensate. After due deliberation, it was decided to grant of Renewal of Consent for 7000 TCD cap Sugar & 22.0 MW Cogeneration unit., by imposing following conditions: 1. Industry shall submit/extend Bank Guarantee of Rs. 25.0 Lakh towards Compliance of Consent conditions and O&M of Pollution Control System. 2. The Bank Guarantee of Rs. 5 lakh obtained for installation of CPU is released as PP provided CPU.
24	MPCB-CONSENT-0000139193	Pravara Rural Hospital Rahata	**APPROVED** Combined Consent & BMW Authorization, Consent to Renewal	31.06.2023	Committee noted that PP has applied for Renewal of Combined Consent with BMW authorization for 1275 Beds total plot area is 420600 sq mtr and built-up area is 9489.69 sq mtr. with CI is Rs. 75.5575 Cr. (Decrease in CI by Rs. 83.3468 Crs) Committee also noted that HCE has previously obtained combine consent to Operate on 27.05.2020 which was valid up to 30.06.2022 for Ci.. of Rs. 157.9043 Crs. ETP of 5 CMD provided and STP of 800 CMD capacity. After due deliberation, it was decided to grant Combined Consent to Operate with BMW authorization for 1275 Bed,

Sr. No.	Application Unique Number	Industry name and Address	Decision on grant of consent	Consent granted Up to	Remarks / Discussion
					by imposing following conditions: 1. Industry shall submit/extend Bank Guarantee as per BG regime for Health Care Establishment. 2. Health Care Establishment shall provide full-fledge ETP for treatment of trade effluent. 3. PP shall provide pretreatment for yellow category waste. Consent shall be issued after submission Bank Guarantee and justification for decrease in capital investment.
25	MPCB-CONSENT-0000140947	Shri Dutta India Pvt.Ltd Servey No-69,70,74 Sakharwadi Phaltan	**APPROVED** Renewal of Consent	31.07.2023	Committee noted that, PP has applied for grant of Renewal of Consent for 4900 TCD with new Boiler of 140 TPH. Committee also noted that, PP Provided ETP with Primary secondary & tertiary system. The JVS results are slightly exceeding. After due deliberation, it was decided to grant of Renewal of Consent for 4900 TCD with new Boiler of 140 TPH., by imposing following conditions: 1. By forfeiting the BG of Rs. 5 lakh for exceedance of JVS and obtain total BG of Rs. 25 Lakh towards compliance of consent conditions and operation and maintains of pollution control system. 2. PP shall submit improvement plan of ETP within a period of 3 months.
26	MPCB-	Jawahar Shetkari	**APPROVED**	31.07.2025	Committee noted that, PP has applied for grant of Renewal

Sr. No.	Application Unique Number	Industry name and Address	Decision on grant of consent	Consent granted Up to	Remarks / Discussion
	CONSENT-0000139860	Sahakari Sakhar Karkhana Ltd., Hupari 315/7 to 315/15 Yalgud -Hupari Hatkanangale	Renewal of Consent		of Consent for 16000 TCD & 28.5 MW Co-generation Committee also noted that, PP Provided ETP with Primary secondary & tertiary system. The JVS results are within consented limit. After due deliberation, it was decided to grant of Renewal of Consent for 16000 TCD & 28.5 MW Co-generation., by imposing following conditions: 1. Industry shall submit/Extend Total BG of Rs. 25 Lakh for compliance of Consent conditions and O & M of pollution control systems. 2. Industry shall submit/Extend Total BG of Rs. 25 Lakh towards not to carry excess crushing. 3. Industry shall comply with all the conditions of EC dtd. 01.12.2020, Amended on 25.10.2021. Excess treated effluent shall be reused in process/utilities and for gardening/greenbelt development / horticulture in own premises only and not to send outside used for farming as per EC.
27	MPCB-CONSENT-0000140619	Loknete Sunderraoji Solanke Sahakari Sakhar Karkhana Ltd. 176 At. Sundernagar Tq. Dharur Dist. Beed Dharur	**APPROVED** Renewal of Consent	31.07.2023	Committee noted that PP has applied for renewal consent for 5000 TCD sugar & 22 MW Co-generation unit. Committee also noted that JVS results are within consented limits and submitted Bank Guarantee of Rs. 25 lakh. After due deliberation, it was decided to grant renewal of consent for 5000 TCD sugar & 22 MW Cogeneration unit, by imposing following conditions:

Sr. No.	Application Unique Number	Industry name and Address	Decision on grant of consent	Consent granted Up to	Remarks / Discussion
					1. Industry shall submit/extend Bank Guarantee of Rs. 25 lakh towards O & M of pollution control system and compliance of consent conditions.
28	MPCB-CONSENT-0000140114	Aayan Multitred Llp Unit No.2 (Oprtive Of Banganga Ssk Ltd.) Gat No. 214,208,209 Ida-Jawala (N) Bhoom	**APPROVED** Renewal of Consent	31.07.2023	Committee noted that PP has applied for 4000 TCD sugar unit with C.I. of Rs. 164.6176 Crs. Committee also noted that PP has obtained Consent to Operate dt: 24.03.2022 for 4000 TCD which is valid up to 31.07.2022. JVS are exceeding consented standards and BG not submitted. After due deliberation, it was decided to grant Renewal of Consent for 4000 TCD sugar unit with C.I. of Rs. 164.6176 Crs., by imposing following conditions: 1. By forfeiting appropriate Bank Guarantee towards JVS exceedance and top-up with double BG towards O & M of pollution control system and compliance of consent conditions. Consent shall be issued after submission of Bank Guarantee as per earlier consent conditions.
29	MPCB-CONSENT-0000140137	Urjankur Shree Tatyasaheb Kore Warna Power Company Limited G.No. 630 Warnanagar Panhala	**APPROVED** Renewal of Consent	31.07.2026	Committee noted that, PP has applied for grant of Renewal of Consent for manufacturing of Electric Power (Co-gen) – 44 MW. Committee also noted that, PP Provided ETP of capacity 640 CMD comprising primary & tertiary treatment. The JVS result of ETP outlet is well within the limit. Industry has provided ESP to bagasse/coal fired Boiler with

Sr. No.	Application Unique Number	Industry name and Address	Decision on grant of consent	Consent granted Up to	Remarks / Discussion
					stack height 100 Mtr. The source emission are within limit for the parameter TPM. After due deliberation, it was decided to consider the case for grant of Renewal of Consent for manufacturing of Electric Power (Co-gen) – 44 MW, by imposing following conditions: 1. Industry shall submit/extend Bank Guarantee of Rs. 25.0 Lakh towards Compliance of Consent conditions and O&M of Pollution Control System. 2. Industry shall ensure the disposal of fly ash as per the fly ash notification, 2016 & amended thereof to achieve 100% utilization of fly ash including bottom ash.
30	MPCB-CONSENT-0000139366	Sahakar Maharshi Shivajirao Narayanrao Nagawade SSK Ltd 52/2 Plot No 52/2, Limpangaon Village Shrigonda	**APPROVED** Renewal of Consent	31.07.2023	Committee noted that PP has applied for Renewal of Consent for 3500 TCD sugar and 26 MW Co-generation unit with C.I. of Rs. 226.8039 Crs. (Increase in CI by Rs. 6.6896 Crs. Committee also noted that JVS results dated 25.11.2021 & 21.03.2022 are within consented standards. Industry has yet to submit PD compliance. After due deliberation, it was decided to grant renewal of consent for 3500 TCD sugar & 26 MW cogeneration unit, by imposing following conditions: 1. Industry shall submit/extend Bank Guarantee of Rs. 25 lakh towards O & M of pollution control systems and compliance of consent conditions.
31	MPCB-	Dalmia Sugar and	**APPROVED**	31.07.2023	Committee noted that, PP has applied for grant of Renewal

Sr. No.	Application Unique Number	Industry name and Address	Decision on grant of consent	Consent granted Up to	Remarks / Discussion
	CONSENT-0000141171	Industries Ltd. Sugar Unit- Shri Datta, Asurle-Porle Dist. Kolhapur 1774, 1775, 1860,1861 ,1925,1926,1957-59,1961 A/P- Porle Panhala	Renewal of Consent		of Consent for 9000 TCD sugar unit & 32 MW co-gen unit Committee also noted that, PP Provided ETP with Primary secondary & tertiary system. The JVS results are slightly exceeding. PP provided ESP as APC and results of source emission are within limit. After due deliberation, it was decided to grant of Renewal of Consent for 9000 TCD sugar unit & 32 MW co-gen unit., by imposing following conditions: 1. Industry shall submit/Extend total BG of Rs. 25 Lakh towards compliance of consent conditions and operation and maintains of pollution control system.
32	MPCB-CONSENT-0000141124	PRASAD SUGAR & ALLIED AGRO PRODUCTS LTD. VAMBORI 912 TO 915 SADE-VAMBORI ROAD RAHURI	**APPROVED** Renewal of Consent	31.07.2023	Committee noted that PP has applied for Renewal of Consent for 4000 TCD sugar unit with C.I. of Rs. 131.0426 Crs. (Increase in CI by 6.6399 Crs.) Committee also noted that JVS results: 21.01.2022 is within consented limit. After due deliberation, it was decided to grant renewal of consent for 4000 TCD sugar unit, subject to submission of Bank Guarantee, by imposing following conditions: 1. Industry shall submit/extend Bank Guarantee of Rs. 25 lakh towards O & M of pollution control systems and compliance of consent conditions.
33	MPCB-CONSENT-	Shiur Sakhar Karkhana Limited,	**APPROVED**	31.07.2023	Committee noted that PP has applied for renewal of consent for 2500 TCD sugar unit.

Sr. No.	Application Unique Number	Industry name and Address	Decision on grant of consent	Consent granted Up to	Remarks / Discussion
	0000141267	Wakodi S.No.85 At Post. Wakodi Kalamnuri	Renewal of Consent		Committee also noted that JVS results are exceeding the consented limits results and BG is submitted. After due deliberation, it was decided to grant renewal of consent for 2500 TCD sugar unit, by imposing following conditions: 1. By forfeiting Bank guarantee of Rs. 5 lakh as JVS of effluent and stack are exceeding consented standards and top-up with Rs. 25 lakh towards O & M of pollution control systems and compliance of consent conditions.

The meeting is ended with vote of thanks.

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ANNEXURE R-8

MAHARASHTRA POLLUTION CONTROL BOARD

Tel: 24010706/24010437
Fax: 24023516
Website: http://mpcb.gov.in
Email: cac-cell@mpcb.gov.in

Kalpataru Point, 2nd and 4th floor, Opp. Cine Planet Cinema, Near Sion Circle, Sion (E), Mumbai-400022

RED/L.S.I (R60)
No:- Format1.0/CAC/UAN No.MPCB-CONSENT-0000175402/CR/2402000113

Date: 01/02/2024

To,
M/s. S M SHIVAJIRAO NARAYANRAO NAGAWADE SAHAKARI SAKHAR KARKHANA LTD,
Plot No. 52/2, Tal. - Shrigonda, Dist. - Ahmednagar.

LiFE Lifestyle for Environment
लोकसेवा हक्क कायदा Right to Public Service Act
Your Service is Our Duty

Sub: **Renewal of consent for 30 KLPD molasses base distillery, under RED category.**

Ref:
1. Earlier consent granted vide no. Format1.0/CAC/UAN No.MPCBCONSENT-0000141434/CR/2211000539 dated 08.11.2022.
2. Minutes of CAC meeting held on 06.11.2023.

Your application No.MPCB-CONSENT-0000175402 Dated 03.07.2023

For: Consent to Renewal under Section 26 of the Water (Prevention & Control of Pollution) Act, 1974 & under Section 21 of the Air (Prevention & Control of Pollution) Act, 1981 and Authorization under Rule 6 of the Hazardous & Other Wastes (Management & Transboundary Movement) Rules 2016 is considered and the consent is hereby granted subject to the following terms and conditions and as detailed in the schedule I, II, III & IV annexed to this order:

1. **The consent to renewal is granted for a period up to 31/08/2024**
2. **The capital investment of the project is Rs.22.42 Crs. (As per C.A Certificate submitted by industry Existing-Rs. 22.42 Crs. + Expansion/Increase - Rs. 2.3102 Crs.)**
3. **Consent is valid for the manufacture of:**

Sr No	Product	Maximum Quantity	UOM
Products			
1	Rectified Spirit OR Extra Neutral Alcohol OR Ethanol	900	KL/M
	Fusel Oil	1	KL/M

4. **Conditions under Water (P&CP), 1974 Act for discharge of effluent:**

Sr No	Description	Permitted (in CMD)	Standards to	Disposal Path
1.	Trade effluent	300	As per Schedule-I	Bio-digester followed by MEE followed by Bio-composting.
2.	Domestic effluent	3	As per Schedule-I	On land for gardening

5. **Conditions under Air (P& CP) Act, 1981 for air emissions:**

Sr No.	Stack No.	Description of stack / source	Number of Stack	Standards to be achieved
1	1	Sugar Unit Boiler	1	As per Schedule -II

6. **Non-Hazardous Wastes:**

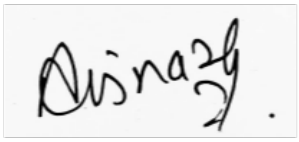
Sr No	Type of Waste	Quantity	UoM	Treatment	Disposal
1	Yeast Sludge	60	MT/A	Composting	Use as manure
2	Bio- Compost	100	Ton/D	Composting	Use as Manure

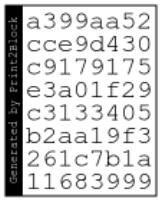
7. **Conditions under Hazardous & Other Wastes (M & T M) Rules 2016 for Collection, Segregation, Storage, Transportation, Treatment and Disposal of hazardous waste:**

Sr No	Category No./ Type	Quantity	UoM	Treatment	Disposal
1	5.1 Used or spent oil	4	Ltr/Hr	Sale to MPCB authorized re-processor / recycler / CHWTSDF	Sale to MPCB authorized re-processor / recycler / CHWTSDF

8. The Board reserves the right to review, amend, suspend, revoke this consent and the same shall be binding on the industry.
9. This consent should not be construed as exemption from obtaining necessary NOC/ permission from any other Government authorities.
10. This consent is issued pursuant to the decision of the Consent Appraisal Committee Meeting held on 06.11.2023.
11. Industry shall install online continuous monitoring system as per CPCB guidelines & data to be transmitted directly from Data Logger to Board server .
12. The applicant shall make an application for renewal of consent 60 days prior to date of expiry of the consent.
13. PP shall operate pollution control system scientifically to achieve the consented norms.
14. PP shall ensure uninterrupted connectivity of OCEMS to Board server directly through data logger.
15. This consent shall be considered cancelled if industry violates the various environmental laws, rules and regulations.
16. Industry shall comply with the EIA notification, dtd. 14.09.2006 and Amendments thereto and consent shall treat as cancelled if industry violates the same.
17. Industry shall stop production activity voluntarily in case of failure of operation and maintenance of the ETP / pollution control systems as preventive measures.
18. This consent is issued without prejudice to order passed / to be passed by Hon'ble NGT.
19. This consent is issued without prejudice to any other permission required under any of the laws, by-laws, or regulation in force.

20. PP shall comply with the conditions mention in VSI report and time to time directions issued by Board.
21. Industry shall extend all existing BGs towards O&M of pollution control systems and towards compliance of the Consent conditions.
22. Industry shall submit/extend bank guarantee of Rs. 25 lakh towards O & M of pollution control systems and compliance of consent conditions





Signed by: Dr.Avinash Dhakne
Member Secretary
For and on behalf of,
Maharashtra Pollution Control Board
ms@mpcb.gov.in
2024-02-01 22:49:30 IST

Received Consent fee of -

Sr.No	Amount(Rs.)	Transaction/DR.No.	Date	Transaction Type
1	50000.00	TXN2307000795	06/07/2023	Online Payment
2	15000.00	TXN2309000482	06/09/2023	Online Payment
3	75000.00	TXN2309000721	06/09/2023	Online Payment

Copy to:

1. Regional Officer, MPCB, Nashik and Sub-Regional Officer, MPCB, Ahmednagar
- They are directed to ensure the compliance of the consent conditions.
2. Chief Accounts Officer, MPCB,Sion, Mumbai
3. CAC-CC desk - for record & website updation.

SCHEDULE-I

Terms & conditions for compliance of Water Pollution Control:

1.Conditions for Trade effluent:

A] As per your application, you have provide comprehensive treatment for volume reduction consisting Bio-digestor followed by Multiple Effect Evaporator followed by Bio-composting.

B] Industry shall has provided CPU of capacity 360 CMD for recycle/reuse of treated effluent.

C] Zero Liquid discharge shall be ensured, and no wastewater/treated water shall be discharged outside the premises.

D] i. The applicant shall operate ETP to treat the effluent so as to achieve the following standards as prescribed by the board/under EP Act, 1986 and rules made thereunder from time to time whichever is stringent.

Sr.No.	Parameter	Standards prescribed by the Board
		Limiting concentration in mg/l except pH
1.	pH.	6.5-8.5.
2.	Colour and Odour.	Absent.
3.	Oil and Grease.	10.
4.	BOD 27°C 3 days.	100 (disposal for on-land irrigation).
5.	Sulphate.	1000.
6.	SS.	100.
7.	COD.	250.
8.	Chloride.	600.
9.	Total dissolved solids.	2100.

ii. In no any case industrial effluent shall find its way outside the factory premises directly/indirectly except for disposal on-land for gardening/irrigation as per bilateral agreement with farmers.

iii. Industry shall take an approval to adopt any alternative technology equivalent to concentration and incineration such as spray dryer with boiler, rotary dryer with aux fuel & boiler gasification, etc. for achieving ZLD.

E] Industry shall operate Online Continuous Emission Monitoring System (OCEMS) and shall transmit Online Continuous Emission Monitoring System (OCEMS) data to Board's server directly through the data logger without any intermediate server

2.Conditions for Sewage/ Domestic effluent:

i. 1 You shall provide sewage treatment plant for the treatment of 3 CMD sewage generation due to expansion and provide including disinfection facility.

2. Industry shall send sewage / overflow of septic tank and soak pit into the aeration tank of ETP for further treatment & disposal.

ii. The industry shall operate sewage treatment system to treat the sewage/ domestic effluent so as to achieve the standards as prescribed by the board/under EP Act, 1986 and rules made thereunder from time to time whichever is stringent.

Sr.No	Parameter	Concentration not to exceed(in mg/l except for pH
1.	pH	6.5-9.0
2.	BOD	30
3.	TSS	100

iii. The sewage shall be treated by using septic tank and soak pit and overflow if any shall be used on-land for gardening/irrigation.

3. Conditions for Aerobic composting:

i. The spent wash should be stored in impervious tanks. The spent wash tanks should have proper lining with HDPE and should be kept in proper condition to prevent ground water pollution. As per the CPCB recommendation and undertaking given by the company, storage should not exceed 30 days capacity.

ii. Applicant shall ensure availability of adequate filler material such as press mud, bagasses, agricultural, biological waste as required for effective composting system.

iii. Composted material shall meet the following specifications—

Moisture	30 to 35%
C/N	Below 17
Nitrogen	1.5 to 2%
Phosphorous	1.5 to 2%
Potassium	3 to 4%

iv. The composting site shall be prepared as per the guideline enclosed. Composting shall be such that it includes mechanical mixing and spraying of spent wash along with mechanical aeration to ensure thorough composting. Hand/ manual spraying of spent wash shall not be permitted.

v. The compost leachate (1 gr. of compost mixed with 100 ml. of distilled water and filtered) Filtrate shall conform to the following limit.

pH	Between	Between
BOD 3 days 27 Deg. C	Not to exceed	30 mg/l

vi. A pucca leak proof guard pond of 30 days holding capacity as per (i) above shall cope up with the effluent discharge during short term process disturbances. In case of prolonged disturbance in effluent treatment and disposal system, distillery shall be shut down and shall not be restarted without rectifying the system.

vii. The composting site/pits shall be made leak proof by proper lining. A catch drain shall be provided around the composting site to collect the storage pond for application on compost depots. Arrangements for overturning of compost material in windrows and spraying of spent wash shall be made to ensure appropriate aeration and uniform distribution of spent wash.

viii. In case of composting in open fields, the application of spent wash shall stop by end of April, so that compost is ready and the site is cleared of the composted manure before monsoon (i.e. 31st May). The manure shall be collected and stored on a raised platform with suitable rain cover so that the compost manure is not washed away by rain/runoff.

ix. Characteristic of soil, ground water and effect on crop yield should be monitored in the area where compost is used as manure and results thereof shall be compiled and reported in the Environment statement to be submitted every year.

x. The test wells shall be provided around the compost site for ground water monitoring. The well water quality has to be maintained at 2006 level.

5. The Applicant shall comply with the provisions of the Water (Prevention & Control of Pollution) Act, 1974 and as amended, by installing water meters and other provisions as contained in the said act:

Sr. No.	***Purpose for water consumed***	***Water consumption quantity (CMD)***
1.	Industrial Cooling, spraying in mine pits or boiler feed	214.00
2.	Domestic purpose	3.00
3.	Processing whereby water gets polluted & pollutants are easily biodegradable	373.00
4.	Processing whereby water gets polluted & pollutants are not easily biodegradable and are toxic	0.00
5.	Gardening	0

6. The Applicant shall provide Specific Water Pollution control system as per the conditions of EP Act, 1986 and rule made there under from time to time/ Environmental Clearance.

SCHEDULE-II

Terms & conditions for compliance of Air Pollution Control:

1. As per your application, you have provided the Air pollution control (APC) system and erected following stack (s) to observe the following fuel pattern:

Stack No.	Stack Attached To	APC System	Height in Mtrs.	Type of Fuel	Quantity & UoM	S%	SO_2
4	BOILER NO V	WET SCRUBBER	60	Bagasse	1150 Ton/D	0.20	4.50

2. Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed stack emission and fugitive emission standards.
3. The Applicant shall obtain necessary prior permission for providing additional control equipment with necessary specifications and operation thereof or alteration or replacement/alteration well before its life come to an end or erection of new pollution control equipment.
4. The Board reserves its rights to vary all or any of the condition in the consent, if due to any technological improvement or otherwise such variation (including the change of any control equipment, other in whole or in part is necessary).
5. The applicant shall operate and maintain above mentioned air pollution control system, so as to achieve the level of pollutants to the following standards:

Particulate matter	Not to exceed	150 mg/Nm3

6. Storage of raw materials, coal etc. shall be either stored in silos or in covered areas to prevent dust pollution and other fugitive emissions.
7. The industry shall submit monthly summary report of continuous stack emission and air quality monitoring and results of manual stack monitoring and manual monitoring of air quality /fugitive emissions to Regional Office MPCB.
8. The Board reserves its rights to vary all or any of the condition in the consent, if due to any technological improvement or otherwise such variation (including the change of any control equipment, other in whole or in part is necessary).
9. Industry shall provide Online Continuous Emission Monitoring System (OCEMS) i.e. flow meter and night vision camera to ensure the Zero Liquid Discharge (ZLD) of spent wash and OCEMS for Boiler stack for PM parameter.

SCHEDULE-III

Details of Bank Guarantees:

Sr. No.	Consent (C2E/ C2O /C2R)	Amt of BG Imposed	Submission Period	Purpose of BG	Compliance Period	Validity Date
1	Consent to Operate	Rs. 25 Lacs	15 days/To be extended	Towards Compliance of consent conditions and Operation & maintenance of pollution control system & to achieve consented prescribed standards	31.08.2024	28.02.2025

BG Forfeiture History

Srno.	Consent (C2E/C2O/C2R)	Amount of BG imposed	Submission Period	Purpose of BG	Amount of BG Forfeiture	Reason of BG Forfeiture
NA						

BG Return details

Srno.	Consent (C2E/C2O/C2R)	BG imposed	Purpose of BG	Amount of BG Returned
NA				

SCHEDULE-IV

General Conditions:

1. The Energy source for lighting purpose shall preferably be LED based
2. The PP shall harvest rainwater from roof tops of the buildings and storm water drains to recharge the ground water and utilize the same for different industrial applications within the plant
3. Conditions for D.G. Set
   a) Noise from the D.G. Set should be controlled by providing an acoustic enclosure or by treating the room acoustically.
   b) Industry should provide acoustic enclosure for control of noise. The acoustic enclosure/ acoustic treatment of the room should be designed for minimum 25 dB (A) insertion loss or for meeting the ambient noise standards, whichever is on higher side. A suitable exhaust muffler with insertion loss of 25 dB (A) shall also be provided. The measurement of insertion loss will be done at different points at 0.5 meters from acoustic enclosure/room and then average.
   c) Industry should make efforts to bring down noise level due to DG set, outside industrial premises, within ambient noise requirements by proper sitting and control measures.
   d) Installation of DG Set must be strictly in compliance with recommendations of DG Set manufacturer.
   e) A proper routine and preventive maintenance procedure for DG set should be set and followed in consultation with the DG manufacturer which would help to prevent noise levels of DG set from deteriorating with use.
   f) D.G. Set shall be operated only in case of power failure.
   g) The applicant should not cause any nuisance in the surrounding area due to operation of D.G. Set.
   h) The applicant shall comply with the notification of MoEFCC, India on Environment (Protection) second Amendment Rules vide GSR 371(E) dated 17.05.2002 and its amendments regarding noise limit for generator sets run with diesel.
4. The applicant shall maintain good housekeeping.
5. The non-hazardous solid waste arising in the factory premises, sweepings, etc. be disposed of scientifically so as not to cause any nuisance / pollution. The applicant shall take necessary permissions from civic authorities for disposal of solid waste.
6. The applicant shall not change or alter the quantity, quality, the rate of discharge, temperature or the mode of the effluent/emissions or hazardous wastes or control equipments provided for without previous written permission of the Board. The industry will not carry out any activity, for which this consent has not been granted/without prior consent of the Board.
7. The Board reserves the right to review, amend, suspend, revoke this consent and the same shall be binding upon you.
8. The industry shall submit quarterly statement in respect of industries obligation towards consent and pollution control compliance's duly supported with documentary evidences (format can downloaded from MPCB official site).
9. The industry shall submit official e-mail address and any change will be duly informed to the MPCB.
10. The industry shall achieve the National Ambient Air Quality standards prescribed vide Government of India, Notification No. B-29016/20/90/PCI-L dated. 18.11.2009 as amended.
11. This consent should not be construed as exemption from obtaining necessary NOC/ permission from any other Government authorities.

12. The industry shall ensure replacement of pollution control system or its parts after expiry of its expected life as defined by manufacturer so as to ensure the compliance of standards and safety of the operation thereof.
13. You shall operate OCEMS installed for source emission round 'O' clock and transmit data online to CPCB and MPCB server. You shall also monitor effluent quality, stack emissions and ambient air quality monthly/quarterly. You shall conduct Dioxin Furan monitoring by third party NABL Accredited agency once in year and submit report to Sub Regional Officer.
14. You shall ensure collection, and segregation of BMW regularly to treat and dispose Off within 48 hrs from generation.
15. Whenever due to any accident or other unforeseen act or even, such emissions occur or is apprehended to occur in excess of standards laid down, such information shall be forthwith Reported to Board, concerned Police Station, office of Directorate of Health Services, Department of Explosives, Inspectorate of Factories and Local Body. In case of failure of pollution control equipments, the production process connected to it shall be stopped.
16. The applicant shall provide an alternate electric power source sufficient to operate all pollution control facilities installed to maintain compliance with the terms and conditions of the consent. In the absence, the applicant shall stop, reduce or otherwise, control production to abide by terms and conditions of this consent.
17. The industry shall recycle/reprocess/reuse/recover Hazardous Waste as per the provision contain in the Hazardous and Other Wastes (M & TM) Rules 2016, which can be recycled /processed /reused /recovered and only waste which has to be incinerated shall go to incineration and waste which can be used for land filling and cannot be recycled/reprocessed etc. should go for that purpose, in order to reduce load on incineration and landfill site/environment.
18. An inspection book shall be opened and made available to the Board’s officers during their visit to the applicant.
19. You shall not Rent, Lend, Sell, Transfer or Close Down the facility or otherwise transport the Bio Medical waste for any other purpose without obtaining prior written permission of the MPC Board.
20. Separate drainage system shall be provided for collection of trade and sewage effluents. Terminal manholes shall be provided at the end of the collection system with arrangement for measuring the flow. No effluent shall be admitted in the pipes/sewers downstream of the terminal manholes. No effluent shall find its way other than in designed and provided collection system.
21. Neither storm water nor discharge from other premises shall be allowed to mix with the effluents from the factory.
22. The industry should not cause any nuisance in surrounding area.
23. The industry shall take adequate measures for control of noise levels from its own sources within the premises so as to maintain ambient air quality standard in respect of noise to less than 75 dB (A) during day time and 70 dB (A) during night time. Day time is reckoned in between 6 a.m. and 10 p.m. and night time is reckoned between 10 p.m. and 6 a.m.
24. You shall ensure that fugitive emissions from the activity are controlled so as to maintain clean and safe environment in and around the facility premises.

25. The applicant shall provide ports in the chimney/(s) and facilities such as ladder, platform etc. for monitoring the air emissions and the same shall be open for inspection to/and for use of the Board's Staff. The chimney(s) vents attached to various sources of emission shall be designated by numbers such as S-1, S-2, etc. and these shall be painted/ displayed to facilitate identification.
26. The Board reserves its rights to review plans, specifications or other data relating to plant setup for the treatment of waterworks for the purification thereof & the system for the disposal of sewage or trade effluent or in connection with the grant of any consent conditions. The Applicant shall obtain prior consent of the Board to take steps to establish the unit or establish any treatment and disposal system or an extension or addition thereto
27. The applicant shall install a separate meter showing the consumption of energy for operation of domestic and industrial effluent treatment plants and air pollution control system. A register showing consumption of chemicals used for treatment shall be maintained.
28. The applicant shall bring minimum 33% of the available open land under green coverage/ plantation. The applicant shall submit a yearly statement by 30th September every year on available open plot area, number of trees surviving as on 31st March of the year and number of trees planted by September end.
29. The Board reserves its rights to review plans, specifications or other data relating to plant setup for the treatment of waterworks for the purification thereof & the system for the disposal of sewage or trade effluent or in connection with the grant of any consent conditions.
30. The firm shall submit to this office, the 30th day of September every year, the Environment Statement Report for the financial year ending 31st March in the prescribed FORM-V as per the provisions of Rule 14 of the Environment (Protection) (second Amendment) Rules, 1992.
31. You should monitor effluent quality, stack emissions and ambient air quality monthly/quarterly. You shall conduct Dioxin Furan monitoring by third party NABL Accredited agency once in every year and submit report to Sub Regional Officer.
32. The Board reserves its rights to vary all or any of the condition in the consent, if due to any technological improvement or otherwise such variation (including the change of any control equipment, other in whole or in part is necessary).
33. The applicant shall provide facility for collection of environmental samples and samples of trade and sewage effluents, air emissions and hazardous waste to the Board staff at the terminal or designated points and shall pay to the Board for the services rendered in this behalf.
34. You shall obtain necessary prior permission for providing additional control equipment with necessary specifications and operation thereof or alteration or shall ensure replacement of pollution control system or its parts after expiry of its expected life as defined by manufacturer so as to ensure the compliance of standards and safety of the operation thereof.
35. You shall strictly comply with the Water (P&CP) Act, 1974, Air (P&CP) Act, 1981 and Environmental Protection Act, 1986 and industry specific standard under EP Rules 1986 which are available on MPCB website (www.mpcb.gov.in).
36. You shall create the Environmental Cell by appointing an Environmental Engineer and Chemist for looking after day-to-day activities related to compliance of CCA.

37. You should comply with the Hazardous and Other Wastes (M & TM) Rules, 2016 , Bio Medical Waste Management Rules,2016 and submit the Annual Returns as per Rule 6(5) & 20(2) of Hazardous and Other Wastes (M & TM) Rules, 2016 for the preceding year in Form-IV by 30th June of every year

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This certificate is digitally & electronically signed.

TRUE COPY

ANNEXURE R-9

MAHARASHTRA POLLUTION CONTROL BOARD

Tel: 24010706/24010437
Fax: 24023516
Website: http://mpcb.gov.in
Email: cac-cell@mpcb.gov.in

Kalpataru Point, 2nd and 4th floor, Opp. Cine Planet Cinema, Near Sion Circle, Sion (E), Mumbai-400022

No:- Format1.0/CAC/UAN No.MPCB-CONSENT-0000174430/CR/2310001612

Date: 22/10/2023

To,
Sahakar Maharshi Shivajirao Narayanrao Nagawade SSK Ltd.,
Plot No 52/2, Limpangaon Village,
Tal- Shrigonda, Dist. - Ahmednagar. Maharashtra

Your Service is Our Duty

Sub: Renewal of consent to operate

Ref:

1. **Earlier consent granted vide no. Format1.0/CAC/UAN No.MPCBCONSENT-0000139366/CR/2211000908 dated 11.11.2022.**
2. **Minutes of 11th CAC meeting held on 30.08.2023.**
3. **Application submitted by Industry vide UAN no. MPCB-CONSENT-0000174430 for consent to operate**

Your application No.MPCB-CONSENT-0000174430 Dated 30.06.2023

For: Grant of Consent to Renewal under Section 26 of the Water (Prevention & Control of Pollution) Act, 1974 & under Section 21 of the Air (Prevention & Control of Pollution) Act, 1981 and Authorization under Rule 6 and Rule 18(7) of the Hazardous & Other Wastes (Management & Transboundary Movement) Rules 2016 is considered and the consent is hereby granted subject to the following terms and conditions and as detailed in the schedule I, II, III & IV annexed to this order:

1. **The Consent to Renewal is granted upto: 31.07.2024**
2. **The capital investment of the industry is Rs.Existing - Rs. 226.8039 Crs. + Expansion - Rs. 79.152 Crs. Total - Rs. 305.9559 Crs. Crs. (As per C.A Certificate submitted by industry).**
3. **Consent is valid for the manufacture of:**

Sr No	Product	Maximum Quantity	UOM
1	Sugar	15840	MT/M
2	Molasses	5760	MT/M
3	Press mud	5760	MT/M
4	Bagasse	40320	MT/M
5	Co-generation	26	MW

4. **Conditions under Water (P&CP) Act, 1974 for discharge of effluent:**

Sr No	Description	Permitted in CMD	Standards to	Disposal
1.	Trade effluent	1245	As per Schedule -I	885 CMD shall be 100 % recycle & 350 CMD shall be used on land for irrigation.
2.	Domestic effluent	45	As per Schedule - I	On land for gardening

5. **Conditions under the Air (P& CP) Act, 1981 for air emissions:**

Stack No.	Description of stack / source	Number of Stack	Standards to be achieved
1	Boiler No.1 (140 TPH) (Working Condition)	1	As per Schedule -II
2	Boiler No. 2 & 3 (Idle condition)	1	As per Schedule -II
3	Boiler No IV & V (Idle condition)	1	As per Schedule -II
4	D.G. set (750KVA)	1	As per Schedule -II
5	D.G. set (500KVA)	1	As per Schedule -II

(As per previous consent of existing unit)

6. **Conditions about Non Hazardous Wastes:**

Sr No	Type of Waste	Quantity	UoM	Treatment	Disposal
1	Canteen waste	0.5	Ton/D	Composting	Use as manure
2	Office waste	0.5	Ton/D	Composting	Use as manure
3	ETP Sludge	5	Ton/M	Composting	Use as manure
4	Boiler Ash	2749	Ton/Y	Nil	Filter Material for Bio composting

7. **Conditions under Hazardous & Other Wastes (M & T M) Rules 2008 for treatment and disposal of hazardous waste:**

Sr No	Type of Waste	HW Category.	Quantity & UoM	Treatment	Disposal
1	5.1 Used or spent oil	5.1	5 Kg/Day	Sale to MPCB authorized re-processor / recycler / CHWTSDF	Sale to MPCB authorized re-processor / recycler / CHWTSDF

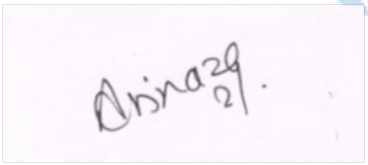
The applicant shall ensure disposal to the Actual user having permissions under Rule 9 of Hazardous and other Waste (M & TM) Rules, 2016.

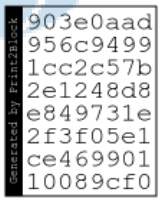
a. The applicant shall properly collect, transport & regularly dispose of the hazardous waste to CHWTSDF, in compliance of the Hazardous & Other Wastes (Management & Transboundry Movement) Rules, 2016 and keep proper manifest thereof.

8. The Board reserves the right to review, amend, suspend, revoke etc. this consent and the same shall be binding on the industry.

9. This consent should not be construed as exemption from obtaining necessary NOC/permission from any other Government authorities.

10. Industry shall connect online CMS data as per CPCB guidelines to CPCB & MPCB Servers.
11. Industry shall comply with the EIA notification, dtd. 14.09.2006 and Amendments thereto and consent shall treat as cancelled if industry violates the same.
12. Industry shall extend all existing BGs towards O&M of pollution control systems and towards compliance of the Consent conditions.
13. This consent shall be consider cancelled if industry violates the various environmental laws, rules and regulations.
14. The applicant shall make an application for renewal of the consent at least 60 days before the date of the expiry of the consent.
15. Industry shall submit/extend Bank Guarantee of Rs. 50 Lakh towards O & M of pollution control systems and compliance of consent conditions and Industry shall extend all existing BGs towards O&M of pollution control systems and towards compliance of the Consent conditions.
16. The applicant should not take any effective steps for implementation of the project before obtaining Environmental Clearance as per EIA Notification 2006 and amendments thereto. As per Para 2 of EIA notification dated- 14.09.2006, the effective steps include starting of any construction work or preparation of land by the project management. However as clarified by the MoEF vide office memorandum no. J-1103/41/2006-IA.II(I); Dated- 19/08/2010, fencing of the site to protect it from getting encroached and construction of temporary shed(s) for the guard(s) & acquisition of land not be treated as an effective step.
17. Industry shall stop production activity voluntarily in case of failure of operation and maintenance of the ETP system as preventive measures.
18. This consent is issued as per the 11th Consent Appraisal Committee meeting dated 30.08.2023.





Signed by: Dr.Avinash Dhakne
Member Secretary
For and on behalf of,
Maharashtra Pollution Control Board
ms@mpcb.gov.in
2023-10-22 18:25:43 IST

Received Consent fee of -

Sr.No	Amount(Rs.)	Transaction/DR.No.	Date	Transaction Type
1	80041.00	TXN2309002823	20/09/2023	Online Payment

As mentioned in previous consent issued by Board on 11/11/2022, the Balance Consent fees of Rs. 6,11,912/- to the Board has considered during this renewal of consent to operate.

Copy to:

1. Regional Officer, MPCB, Nashik and Sub-Regional Officer, MPCB, Ahmednagar
   - They are directed to ensure the compliance of the consent conditions.
   - Regional Officer, Nashik & Sub-Regional Officer, Ahmednagar are directed to forfeit the Bank Guarantee(BG) of Rs.12.5 Lacs & obtain top up BG of Rs. 50 Lacs from the Industry, do needful & submit the compliance accordingly.
2. Chief Accounts Officer, MPCB,Sion, Mumbai
3. CC-CAC desk for record & website updation.

SCHEDULE-I

Terms & conditions for compliance of Water Pollution Control:

1) **A] As per your application, you have provided Effluent Treatment Plant (ETP) of designed capacity of 1000 CMD consisting of Primary, Secondary, Tertiary for treatment of 810 CMD industrial effluent.**

B] Industry shall provide CPU for recycle/reuse of treated effluent.

C] The Applicant shall operate the effluent treatment plant (ETP) to treat the trade effluent so as to achieve the following standards prescribed by the Board or under EP Act, 1986 and Rules made there under from time to time, whichever is stringent.

Sr. No.	*Parameters*	*Limiting concentration not to exceed in mg/l, except for pH*
(1)	pH	5.5-9.0
(2)	Oil & Grease	10
(3)	BOD (3 days 27^{o}C)	100
(4)	Sulphate	1000
(5)	Suspended Solids	100
(6)	COD	250
(7)	Chloride	600
(8)	Total Dissolved Solids	2100

D] The treated effluent 1245.00 CMD shall be disposed on land for irrigation on 150.00 hectares of own land /as per the bilateral agreement with farmers. In no any case treated/untreated effluent shall find its way outside the factory premises directly or indirectly.

E] Industry shall operate Online Continuous Emission Monitoring System (OCEMS) and shall transmit Online Continuous Emission Monitoring System (OCEMS) data to Board's server directly through the data logger without any intermediate server.

F] Trade effluent of 48.00 CMD generated from Co-gen shall be 100% recycle in process.

G] CREP conditions for Sugar Factory

i. Operation of ETP shall be started at least one month before starting of cane crushing to achieve desired MLSS. So as to meet prescribed standards from day one the operation of mill.

ii. Waste water generation shall be reduced to 100 liters per tone of cane crushed.

iii. Industry shall achieve zero discharge into in land surface water bodies.

iv. 15 days' storage capacity tank shall be provided for treated effluent to take care during no demand for irrigation.

H] Industry to make necessary arrangement to cover the effluent collection system and to avoid the ingress of Bagasse and other material.

I] The unit shall operate ETP even after completion of the crushing season so that any effluent generated during washing & maintenance activity is to be discharged after proper treatment.

J] The unit shall optimize water use in industrial process & maintain records.

2) A] **As per your application, you have provided sceptic tank and soak pit for the treatment of 45 CMD sewage.**

B] **The applicant shall operate sewage treatment system to treat sewage so as to achieve the following standards/ prescribed under EP Act 1986 and rules made under time to time, whichever is stringent.**

1	Suspended Solids	Not to exceed	100 mg/l
2	BOD 3 days (27°C)	Not to exceed	100 mg/l

C] **The treated sewage shall be 100% reused/recycled for gardening purpose within premise. In no any case, sewage shall find its way outside Company's premises.**

3) The industry shall have bilateral agreement with the farmers on whose land the treated effluent is used for irrigation purposes and a copy of the agreements with validity shall be submitted to the Regional/Sub- Regional Office of the Board.

4) The industry shall create Environmental Cell by appointing an Environmental Engineer, Chemist and Agriculture expert for looking after day to day activities related to Environment and irrigation field where treated effluent is used for irrigation.

5) CONDITIONS FOR MOLASSES STORAGE:

(i) The molasses shall be properly collected and stored in steel tanks which shall be leak proof. At no stage of handling of molasses, there shall be leakage or spillage.

(ii) The capacity of tanks for storage of molasses shall be such that it will take care of bumper production of sugar, non-lifting of molasses etc.

(iii) All the area on which molasses are stored and handled should be provided with drain for diverting the spills to the treatment plant/ molasses tank. Suitable arrangements for accidental discharges of molasses from the tanks shall be provided to contain the same within factory premises.

(iv) Destruction of molasses and its disposal shall not be done without specific permission in writing from the authorized officer of the Board. Intimation of intention to destroy or dispose of the molasses shall be given to the Board at least 15 (fifteen) days in advance by registered post under intimation to the Sub-Regional officer and Regional officer of the Board under whose jurisdiction the factory is situated.

(v) The storage tanks shall be kept in good conditions all the year round with adequate maintenance. The tanks size and capacity per cm, height, total capacity in tonnes shall be displayed prominently near /on the tank.

(vi) The above conditions shall be in addition to and not in derogation of the provisions contained in the "Bombay Molasses Rules, 1955? and "Maharashtra Molasses Storage and Supply Regulation, 1965?.

6) The Applicant shall provide Specific Water Pollution control system as per the conditions of EP Act, 1986 and rule made there under from time to time/ Environmental Clearance / CREP guidelines if applicable.

7) The Board reserves its rights to review plans, specifications or other data relating to plant setup for the treatment of waterworks for the purification there of & the system for the disposal of sewage or trade effluent or in connection with the grant of any consent conditions. The Applicant shall obtain prior consent of the Board to take steps to establish the unit or establish any treatment and disposal system or an extension or addition thereto.

8) The industry shall ensure replacement of pollution control system or its parts after expiry of its expected life as defined by manufacturer so as to ensure the compliance of standards and safety of the operation thereof.

9) The Applicant shall comply with the provisions of the Water (Prevention & Control of Pollution) Act, 1974 and as amended, by installing water meters, and other provisions as contained in the said act:

Sr. No.	Purpose for water consumed	Water consumption quantity (CMD)
1.	Industrial Cooling, spraying in mine pits or boiler feed	1609.00
2.	Domestic purpose	50.00
3.	Processing whereby water gets polluted & pollutants are easily biodegradable	7446.00
4.	Processing whereby water gets polluted & pollutants are not easily biodegradable and are toxic	0.00
5.	Grandening	0

10) The Applicant shall provide Specific Water Pollution control system as per the conditions of EP Act, 1986 and rule made there under from time to time/ Environmental Clearance/ CREP guidelines.

SCHEDULE-II

Terms & conditions for compliance of Air Pollution Control:

1) As per your application, you have provided the Air pollution control (APC) system and erected following stack(s) and observe the following fuel pattern-

Stack No.	Stack Attached To	APC System	Height in Mtrs.	Type of Fuel	Quantity & UoM	S%	SO_2
1	Boiler No.1 (140 TPH)	Wet Scrubber & ESP	73	Bagasse	1272 MT/Day	0.20	122.11
2	Boiler No. 2 & 3	Wet Scrubber	60	Bagasse	15000 Kg/Hr	0.20	1440.00
3	Boiler No 4 & 5	Wet Scrubber	60	Bagasse	15000 Kg/Hr	0.20	1440.00
4	D.G. set (750KVA)	Stack & Acoustic enclosure	5.5	HSD	180 Ltr/Hr	1.00	3.60
5	D.G. set (500KVA)	Stack & Acoustic enclosure	4.5	HSD	120 Ltr/Hr	1.00	2.40

(As per previous consent of existing unit)

2) The Applicant shall provide Specific Air Pollution control equipments as per the conditions of EP Act, 1986 and rule made there under from time to time/ Environmental Clearance / CREP guidelines.

1 The Applicant shall provide ESP/ Bag filter/ Wet scrubber to the Bagasse fired boiler and Dust Collector to Sugar bagging section as an Air Pollution control equipments OR as per the conditions of EP Act, 1986 and rule made there under from time to time / Environmental Clearance / CREP guidelines.

2 The applicant shall operate and maintain above mentioned air pollution control system, so as to achieve the level of pollutants to the following standards:

Total Particulate matter	Not to exceed	150 mg/Nm3

3 The Applicant shall obtain necessary prior permission for providing additional control equipment with necessary specifications and operation thereof or alteration or replacement/alteration well before its life come to an end or erection of new pollution control equipment.

4 The Board reserves its rights to vary all or any of the condition in the consent, if due to any technological improvement or otherwise such variation (including the change of any control equipment, other in whole or in part is necessary).

5 Industry should not use auxiliary fuel more than 15 % (as per amendment in EIA Notification 2009, power plant upto 15 MW based on Bio-mass and using auxiliary fuel as coal upto 15% are exempt.) as co-gen capacity is below 15 MW.

3) The Applicant shall obtain necessary prior permission for providing additional control equipment with necessary specifications and operation thereof or alteration or replacement/alteration well before its life come to an end or erection of new pollution control equipment.

4) The Board reserves its rights to vary all or any of the condition in the consent, if due to any technological improvement or otherwise such variation (including the change of any control equipment, other in whole or in part is necessary).

SCHEDULE-III

Details of Bank Guarantees:

Sr. No.	Consent(C2E/ C2O/C2R)	Amt of BG Imposed	Submission Period	Purpose of BG	Compliance Period	Validity Date
1	Consent to Operate	Rs. 50 Lakh	15 days	Towards Compliance of consent conditions and Operation & maintenance of pollution control system & to achieve consented prescribed standards	31.07.2024	31.01.2025

BG Forfeiture History

Srno.	Consent (C2E/C2O/C2R)	Amount of BG imposed	Submission Period	Purpose of BG	Amount of BG Forfeiture	Reason of BG Forfeiture
1	Consent to Operate	Rs. 50 Lacs	15 days	Compliance of consent conditions and Operation & maintenance of pollution control system & to achieve consented prescribed standards	Rs. 12.5 Lacs	Towards JVS Exceedance

SCHEDULE-IV

General Conditions:

1 The applicant shall provide facility for collection of environmental samples and samples of trade and sewage effluents, air emissions and hazardous waste to the Board staff at the terminal or designated points and shall pay to the Board for the services rendered in this behalf.

2 The applicant shall provide ports in the chimney/(s) and facilities such as ladder, platform etc. for monitoring the air emissions and the same shall be open for inspection to/and for use of the Board's Staff. The chimney(s) vents attached to various sources of emission shall be designated by numbers such as S-1, S-2, etc. and these shall be painted/ displayed to facilitate identification.

3 Whenever due to any accident or other unforeseen act or even, such emissions occur or is apprehended to occur in excess of standards laid down, such information shall be forthwith Reported to Board, concerned Police Station, office of Directorate of Health Services, Department of Explosives, Inspectorate of Factories and Local Body. In case of failure of pollution control equipment, the production process connected to it shall be stopped.

4 The applicant shall provide an alternate electric power source sufficient to operate all pollution control facilities installed to maintain compliance with the terms and conditions of the consent. In the absence, the applicant shall stop, reduce or otherwise, control production to abide by terms and conditions of this consent.

5 The firm shall submit to this office, the 30th day of September every year, the Environmental Statement Report for the financial year ending 31st March in the prescribed Form-V as per the provisions of rule 14 of the Environment (Protection) (Second Amendment) Rules, 1992.

6 The industry should comply with the Hazardous & Other Wastes (M & TM) Rules, 2016 and submit the Annual Returns as per Rule 6(5) & 20(2) of Hazardous & Other Wastes (M & TM) Rules, 2016 for the preceding year April to March in Form-IV by 30th June of every year.

7 An inspection book shall be opened and made available to the Board's officers during their visit to the applicant.

8 The industry shall constitute an Environmental cell with qualified staff/personnel/agency to see the day to day compliance of consent condition towards Environment Protection.

9 The applicant shall install a separate meter showing the consumption of energy for operation of domestic and industrial effluent treatment plants and air pollution control system. A register showing consumption of chemicals used for treatment shall be maintained.

10 The applicant shall bring minimum 33% of the available open land under green coverage/ plantation. The applicant shall submit a yearly statement by 30th September every year on available open plot area, number of trees surviving as on 31st March of the year and number of trees planted by September end.

11 The industry shall submit official e-mail address and any change will be duly informed to the MPCB.

12 Industry should monitor effluent quality, stack emissions and ambient air quality monthly/quarterly.

13 The industry shall recycle/reprocess/reuse/recover Hazardous Waste as per the provision contain in the H&OW(M&TM) Rules 2016, which can be recycled/processed/ reused/ recovered and only waste which has to be incinerated shall go to incineration and waste which can be used for land filling and cannot be recycled/ reprocessed etc. should go for that purpose, in order to reduce load on incineration and landfill site/environment.

14 Industry shall strictly comply with the Water (P&CP) Act, 1974, Air (P&CP) Act,1981 and Environmental Protection Act,1986 and industry specific standard under EP Rules 1986 which are available on MPCB website(www.mpcb.gov.in).

15 Separate drainage system shall be provided for collection of trade and sewage effluents. Terminal manholes shall be provided at the end of the collection system with arrangement for measuring the flow. No effluent shall be admitted in the pipes/sewers downstream of the terminal manholes. No effluent shall find its way other than in designed and provided collection system.

16 Neither storm water nor discharge from other premises shall be allowed to mix with the effluents from the factory.

17. Conditions for D.G. Set

a) Noise from the D.G. Set should be controlled by providing an acoustic enclosure or by treating the room acoustically.

b) Industry should provide acoustic enclosure for control of noise. The acoustic enclosure/ acoustic treatment of the room should be designed for minimum 25 dB (A) insertion loss or for meeting the ambient noise standards, whichever is on higher side. A suitable exhaust muffler with insertion loss of 25 dB (A) shall also be provided. The measurement of insertion loss will be done at different points at 0.5 meters from acoustic enclosure/room and then average.

c) Industry should make efforts to bring down noise level due to DG set, outside industrial premises, within ambient noise requirements by proper sitting and control measures.

d) Installation of DG Set must be strictly in compliance with recommendations of DG Set manufacturer.

e) A proper routine and preventive maintenance procedure for DG set should be set and followed in consultation with the DG manufacturer which would help to prevent noise levels of DG set from deteriorating with use.

f) D.G. Set shall be operated only in case of power failure.

g) The applicant should not cause any nuisance in the surrounding area due to operation of D.G. Set.

h) The applicant shall comply with the notification of MoEFCC, India on Environment (Protection) second Amendment Rules vide GSR 371(E) dated 17.05.2002 and its amendments regarding noise limit for generator sets run with diesel.

18 The industry should not cause any nuisance in surrounding area.

19 The industry shall take adequate measures for control of noise levels from its own sources within the premises so as to maintain ambient air quality standard in respect of noise to less than 75 dB (A) during day time and 70 dB (A) during night time. Day time is reckoned in between 6 a.m. and 10 p.m. and night time is reckoned between 10 p.m. and 6 a.m.

20 The applicant shall maintain good housekeeping.

21 The non-hazardous solid waste arising in the factory premises, sweepings, etc. be disposed of scientifically so as not to cause any nuisance / pollution. The applicant shall take necessary permissions from civic authorities for disposal of solid waste.

22 The applicant shall not change or alter the quantity, quality, the rate of discharge, temperature or the mode of the effluent/emissions or hazardous wastes or control equipment provided for without previous written permission of the Board. The industry will not carry out any activity, for which this consent has not been granted/without prior consent of the Board.

23 The industry shall ensure that fugitive emissions from the activity are controlled so as to maintain clean and safe environment in and around the factory premises.

24 The industry shall achieve the National Ambient Air Quality standards prescribed vide Government of India, Notification dtd. 16.11.2009 as amended.

25 Whenever due to any accident or gas leakage or other unforeseen act or even, such emission occur or is apprehended to occur in excess of standards laid down, such information shall be forthwith Reported to Collector, Directorate of industry, Safety and Health, Police Station, fire Brigade, Directorate of Health services, Department of Explosives, Board and local Body the production process should be stopped by taking all necessary safety measures. Industry shall also monitor the emission and ensure that the emission do not cause any harm or nuisance in the surrounding. The industry should not restart the process without the permission of the Board and other statutory organization as require under the law.

26 Industry shall comply with the provisions of MSIHC Rules,1989 as amended thereafter, if applicable.

27 The Industry shall comply with E-waste (Management) Rules, 2016.

28 The Industry shall comply with Batteries (Management and Handling) Rules, 2001.

29 Industry shall comply the provisions of Maharashtra Plastic and Thermocol Items notification, 2018 and amendments thereto.

30 Industry shall comply the provisions of Plastic Waste Management Rules, 2016 and amendments thereto.

This certificate is digitally & electronically signed.

TRUE COPY

ANNEXURE R-10

(Pune Bench)

BEFORE THE NATIONAL GREEN TRIBUNAL
WESTERN ZONE BENCH, PUNE

[THROUGH PHYSICAL HEARING (WITH HYBRID OPTION)]

ORIGINAL APPLICATION NO.84 OF 2019 (WZ)

Vinaykumar Vithalrao Jathar,
Age : 41 years, Occu. Medical Practitioner,
Agri. & Social Service, R/o Behind Tahsil Office,
Bankar Nagar, Tq. Shrigonda, District Ahmednagar .... **Applicant**

Versus

1. The State of Maharashtra,
   Through the Secretary,
   Revenue and Forest Department,
   Mantralaya, Mumbai-32

2. The Secretary,
   Environment Department,
   Mantralaya, Mumbai-32

3. Maharashtra Pollution Control Board,
   Through its Secretary,
   Kalpataru Point, 3rd Floor, Near Sion Circle,
   Opp. Cine Planet Cinema, Sion (East),
   Mumbai – 400 022

4. The Maharashtra Pollution Control Board,
   Sub-Regional Officer, Savitribai Phule
   Vyapari Sankul, 1st Floor, Near T.V. Center,
   Savedi, Tq. & District Ahmednagar
   P.O. Box. No.414001

5. The Collector, Ahmednagar,
   Tq. and District Ahmednagar

6. The Sub-Divisional Officer,
   Karjet-Shrigonda Sub-Division,
   Tq. Shrigonda, Dist. Ahmednagar

7. The Tahsildar, Shrigonda,
   Tq. Shrigonda, Dist. Ahmednagar

8. The Chief Conservator of Forests,
   (Wild Life), Van Bhawan, 3rd Floor,
   Gokhle Nagar, Pune

9. The Deputy Conservator of Forest,
   Van Bhawan, Aurangabad Road,
   Ahmednagar, Dist. Ahmednagar

10. The Range Forest Officer (Territorial),

Shrigonda, Tq. Shrigonda,
District Ahmednagar

11.M/s Sahakar Maharshi Shivajirao
Narayanrao Nagode S.S.K. Ltd.,
Through its Managing Director,
Post Shrigonda, Tq. Shrigonda,
Dist. Ahmednagar ....**Respondents**

APPEARANCE :

Applicant :Mr. Rahul A. Tambe, Advocate along with
Mr. Tanaji B. Gambhire, Advocate and
Mr. Vijay Mhaske& Ms. Kajal Mandge, Advocates

Respondents :Mr. Aniruddha Kulkarni, Advocate for R-2
Ms. Manasi Joshi, Advocate for R-3 and R-4
Ms. Vaidya Pandit, Advocate for R-5 and R-6
Mr. D.M. Gupte, Advocate for R-8 to R-10
Mr. Sangramsingh R. Bhonsle, Advocate along with
Ms. Aarti Bhonsle, Advocate, Ms. Samridhi S. Jain,
Advocate, Mr. Nrupal A. Dingankar, Advocate,
Ms. Pushkara A. Bhonsle, Advocate and Mr. Naman
Shreshtra, Advocate for R-11

CORAM: HON'BLE MR. JUSTICE DINESH KUMAR SINGH, JUDICIAL MEMBER
HON'BLE DR. VIJAY KULKARNI, EXPERT MEMBER

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Reserved on : 19.10.2023

Pronounced on : 10.01.2024

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JUDGMENT

1. This Original Application was originally filed as Writ Petition No.11120 of 2019 before the Hon'ble High Court of Bombay, Bench at Aurangabad, with the prayers that the permission granted by respondent No.3 dated 18.05.2018 in favour of respondent No.11 – M/s Sahakar Maharshi Shivajirao Narayanrao Nagode S.S.K. Ltd. for construction and erection of 26 MW Co-generation power plant in land gut No.52/2 at village Limpangaon, Tq. Shrigonda, District Ahmednagar be declared to be illegal and in contravention of the provisions of Forest Conservation Act and the Guidelines dated 09.02.2011 and 15.03.2011; further it was

prayed that prohibitory order be issued to respondent No.11 not to carry out further construction/erection of the said Co-generation power plant on the said gut number in pursuance of the above mentioned permission; further it was prayed that the mutation entries annexed at Exhibit-"G" be declared to be illegal and contrary to the provisions of the Forest (Conservation) Act and further it was prayed that the land to the extent of 36 Hectors situated in Gut No.52/1 at village Limpangaon, Tq. Shrigonda, District Ahmednagar be directed to be handed over to the Forest Department.

2. This Writ Petition was transferred to this Tribunal by the Hon'ble High Court of Bombay, Bench at Aurangabad and has been registered as the present Original Application, which is reflected from the order dated 22.11.2019 of the Consultant (Judicial) of Principal Bench of this Tribunal at New Delhi.

3. The facts of this case, in brief, are respondent No.11 - M/s Sahakar Maharshi Shivajirao Narayanrao Nagode S.S.K. Ltd. has erected co-generation plant for production of electricity in land gut No.52/2, in contravention of the Wildlife Protection Act and other Environmental Laws and guidelines dated 09.02.2011 and 15.03.2011, which are annexed at pages 93 to 120 of the paper-book. The applicant has challenged the mutation entries, annexed at Exhibit-"G" (pages 52 to 92 of the paper-book), English version of which is available at pages 78A to 78AD of the paper-book and order dated 18.05.2018 (Exhibit-N, pages 159 to 165 of the paper-book) i.e. Consent to Establish granted by respondent No.3 – MPCB in favour of respondent No.11 – Project Proponent to establish Co-generation Plant. It is submitted that the Revenue and Forest Department, vide notification issued under Sections 19 and 34 of the Indian Forest Act, 1878 dated 13.06.1892, has notified the lands in Ahmednagar district as reserved forest, which included

village Limpangaon (Survey No.99, now Gut No.52/1). In view of the said Notification, the provisions of the Forests Act are made applicable to the said land. Subsequently, the erstwhile Government of Bombay issued a notification dated 19.09.1935 under Section 27 of the Indian Forest Act, 1927, thereby permitting de-reservation of 40 acres of land notified under notification dated 13.06.1892. By subsequent notification dated 25.11.1970, the Government of Maharashtra, exercising powers under Sections 19, 27 and 34 of the Indian Forest Act, 1927, declared area of 82 acres of land in Survey No.99-A at village Limpangaon to be de-reserved. Besides notification (Exhibit-C – pages 41 to 43 of the paper-book), in view of the provisions of Wild Life (Protection) Act, 1972, no permission can be granted for carrying out the non-forest activity within the forest area. The letter issued by respondent No.10 – Range Forest Officer, Shrigonda specifically mentions that Survey No.99/A forms the part of reserved forest, hence No Objection Certificate cannot be granted by the Forest Department for any non-forestry activities. Even in view of the guidelines laid down in the year 2011, the activity taken up by respondent No.11 is prohibited activity. In spite of the letter dated 19.01.2019, directing stoppage of work for obtaining necessary permissions, respondent No.11 has carried out the construction. The letter dated 19.01.2019 as well as the visit reports dated 14.01.2019 and 28.05.2019 would demonstrate that respondent No.11 is doing construction work without obtaining the necessary permissions and without acting as per order dated 19.01.2019. Surprisingly, the visit report dated 28.05.2019 refers to notice dated 19.01.2019 and some vague explanation to it by respondent No.11. However, the report does not clarify whether respondent No.11 has obtained permission from NBWL. Subsequently, visit report dated 31.07.2019 would show that in spite of the stay order, the construction work is in progress and is likely

to be completed. Respondent No.11 has taken up non-forestry activity within the eco-sensitive zone of the GIBS which is a prohibited activity. Respondent No.11/Project Proponent, with the help of respondent No.6 SDO, Karjat-Shrigonda Sub-Division and respondent No.7 – Tahsildar, Shrigonda, has got exchanged private lands with forest lands and in connivance with each other, they have got sanctioned the mutation entries.

4. The matter was first considered by this Tribunal on 05.12.2019, on which date a Joint Committee was constituted comprising the Chief Conservator of Forests (Wildlife), Pune, Maharashtra, the District Collector, Ahmednagar, the Conservator of Forests of the concerned Circle/Area and a senior representative of the State Pollution Control Board, the Chief Conservator of Forest (Wildlife), Pune being the nodal agency, with a direction to verify the factual aspects set out in the original application and submit its report. In compliance thereto, the Joint Committee has submitted its report, which is at pages 309 to 317 of the paper-book.

> *"REPORT ON BEHALF OF THE COMMITTEE COMPRISED IN VIEW OF THE ORDER DATED 05/12/2019 PASSED BY THIS HON'BLE TRIBUNAL*
>
> *1. In view of the order dated 05/12/2019 passed by this Hon'ble Tribunal, a Preliminary meeting was held on 26/12/2019 with the representative of the committee members. Accordingly, course of action was decided subsequently meeting has been held on 25/02/2020, in which the available record has been scrutinized and it has been decided to conduct joint visit on 29/02/2020. The representative of committee accordingly visited the site on 29/02/2020. Here to marked and annexed at Exh. R 1 is the copy of joint inspection report. However, the representatives of MPCB were not present for the site inspection because of administrative exigencies. After site inspection the committee members have*

verified the available documents and came to the following conclusions.

i) Vide notification dated 11/02/2020 .issued by Ministry of Environment Forest and Climate Change the Eco-Sensitive Zone for Great Indian Bustard Wildlife Sanctuary ***has been notified and the*** *existing Eco-Sensitive Zone ranging from 0* ***to 400 from*** *the sanctuary boundary. in this view of the matter the* ***land and the project in question does not*** *fall within the Eco-Sensitive Zone.*

ii) Vide notification No.FLD1870/67084-W dated 25/11/1970 issued by Revenue and Forest Department total 82 Acre of land of gut number 52/2 situated at Limpangoan Tal Shrigonda Dist Ahmednagar came to be de-notified and ceased to be a forest land.

iii) The land bearing gut no. 52/2 was de-notified by order passed by Revenue and Forest Department, Mumbai which was later published in Government Gazette dated 31/12/1970. Accordingly, said land thereafter was transferred for setting up the project by the then Collector, Ahmednagar vide order dated 02/04/1971. However, after verification ***of the*** *documents and map prepared by Dy. Supt. Land Record, Shrigonda it appears that, total 35 hectors land out of gut no. 52/1 situated at Limpangoan Tal Shrigonda Dist Ahmednagar is in control and possession of the sugar factory i.e. M/s Sahakar Maharshi Narayanrao Nagawade SSK Ltd. even though the same land is forest land.* ***(Here to marked and annexed Exh. R 2 are the copies of Notification dated 11/02/2020 issued by Ministry of Environment Forest and Climate Change, Delhi, the notification dated 25/11/1970 issued by Revenue and Forest Department, Mumbai and order passed by then Collector, Ahmednagar dated 02/04/1971, & the map prepared by the Dy. Supt. Land Record, Shrigonda in respect of gut no. 52 situated at Limpangoan Tal Shrigonda Dist Ahmednagar Collectively.)***

2) It is respectfully submitted, that, the Collector, Ahmednagar vide letter dated 03/03/2020 has called for report from the Sub Divisional Officer, Shrigonda- Parner in consistence with the order dated 05/12/2019 passed by this Hon'ble Tribunal.

Accordingly, Sub Divisional Officer, Shrigonda has submitted a report on 04/03/2020 and set out the facts as under.

The land bearing survey no, 99 situated at village Limpangaon Tal Shrigonda is divided in sub survey no 99A & 99B in 1935. In 1970 gut scheme was implemented and the land bearing survey 99A has given new gut no. 234 (area 155.65 H.R.) in gut scheme. The land bearing survey no 99B has given new gut no 237 (area 40 acre) in gut scheme. Then village Jangalewadi has become separate revenue village and gut no 237 has given new gut ***no 51. As per*** *the Maharashtra Government gazette notification* ***published on 26 Sept 1935*** *the* ***land*** *bearing survey no 99B (old gut no* ***237 and new gut no 51) area 40 acre*** *situated at village Limpangaon Tal Shrigonda has ceased to be a reserved forest.*

It is also found that the then collector vide order LMD/V 641/71, Ahmednagar dated 02/04/1971 granted land bearing gut no 234 area 82 acre (33.18.41 H R) out of total area 155.65 H R to the Shrigonda Co-operative Sugar Factory Ltd, Limpangaon to erect sugar factory. The name of the Shrigonda Co-operative Sugar Factory has been mutated by mutation entry no 42 dated 22/03/1971, and also land bearing gut no 234 has divided in sub gut no 234/1 area 122.46.59 H R and gut no 234/2 area 33.18.41 H R (82 acre). Subsequently land bearing gut no 234/2 has been given new gut no 52/2. As per the Maharashtra Government gazette notification published on 31 Dec 1970 the land bearing survey no 99A (old gut no 234/2 and new gut no 52/2) area 82 acre (33.18.41 H R) situated at village Limpangaon Tal Shrigonda has ceased to be a reserved forest.

As per the records, it is found that Sahakar Maharshi Shivajirao Narayanrao Nagawade Co-operative Sugar Factory has been erected on deforested land bearing gut no bearing 52/2 area 82 acre (33.18.41 H R) and all the mutation entry done pertaining to gut no 52/2 of sugar factory are of deforested land.

However, as per report submitted by Tabsildar Shrigonda total 35.90 H R of land from gut no 52/1 is under possession of sugar factory which is a forest land and not

disforested. This land was granted by the then tahsildars and then it is exchanged by the then SDOs to sugar factory. However this land is not disforested as per the available record to our office. So it appears that, the said grant of land and exchange of the land are in contravention of the provision of Forest Conservation Act, 1980. So all these mutations where forest land is granted and exchanged will be taken in revision by taking prior sanction from State Government.

The exchanged land details of land bearing gut no 52/1 (survey no 99A) area 35.90 H R are shown below.

Sr. No.	Gut No / Survey No	Area **H R**	**Mutation entry No**
2	52/1/4	1.20	3640 Dt- 06/02/2004
3	52/1/51	3.00	3641 Dt- 06/02/2004
4	52/1/8	2.42	3642 Dt- 06/02/2004
5	52/1/5	4.04	3643 Dt- 06/02/2004
6	52/1/40	2.42	3645 Dt- 06/02/2004
7	52/1/6	1.71	3648 Dt- 11/02/2004
8	52/1/49	3.90	3650 Dt- 23/02/2004
9	52/1/25	3.20	3667 Dt- 01/05/2004
11	**52/1/39**	**2.42**	3688 Dt- 11/01/2005
12	52/1/7	2.02	3689 Dt- 11/01/2005
13	52/1/22	1.52	4081 Dt- 08/06/2007
14	52/1/42	1.20	4789 Dt- 02/11/2012
15	52/1/10	4.03	1984 Dt- 28/11/1986 1854 Dt-30/11/1985
16	52/1/24	2.82	4905 Dt. 21/07/2013

Accordingly, all concerned mutation entries in respect of grant and exchange of such lands will be dealt in revision after obtaining prior permission of the State Government. ***Here to marked and***

annexed at Exh. R-3 is the copy of report dated 04/03/2020 submitted Sub Divisional Officer, Shrigonda-Parner to Collector, Ahmednagar and the copies of mutation entries, collectively.

3) It is respectfully submitted that, the Sub Regional Officer, MPCB, Ahmednagar has also submitted the facti:3I report vide letter dated 04/03/2020 and stated the details of action taken by Maharashtra Pollution Control Board (MPCB) in respect of M/s Sahakar Maharshi Narayanrao Nagwade SSK Ltd., A/P- Shrigonda Factory, Tal- Shrigonda, Dist- Ahmednagar due to violations of various Environmental enactments as under,

The Board has granted conditional consent to establish to the said industry for installation of 26 MW Co-generation plant at Gut No.51/1, Shrigonda, Tal- Shrigonda, Dist- Ahmednagar vide No. CAC/1805000822 dtd- 18.05.2018 with condition not to take effective step for implementation of the project before obtaining Environmental Clearance (EC) as EIA Notification 2006 & amendments there to & for that the industry shall furnish Bank Guarantee of Rs. 10.0 Lakh having validity upto obtaining EC & first consent to operate of the Board. The Board has issued Directions for Stoppage of work of 26 MW Co-generation plant vide letter No.279/188 dtd-19.01.2019 as the industry has completed more than 50% work of installation of 26 MW Co-gen plant without obtaining prior Environmental Clearance (EC).

The Board has also forfeited ***Bank Guarantee of Rs.10.0 Lakh*** *vide letter No.185/2019 dtd-19.01.2019 for violations of conditions of consent to establish granted by the Board for establishment of 26 MW Co-gen plant i.e. implementation of the project before obtaining Environmental Clearance from the competent authority. The State level Environment Impact Assessment Authority has issued Environmental Clearance for 26 MW.* ***Baggase based Co-generation unit vide letter dtd-11.09.2019. The*** *Board has issued Show Cause notice for refusal of 1st Consent to operate for 26 MW Co-generation plant vide letter Dtd-24.10.2019 due to violations of conditions of* ***consent to*** *establish & failure to comply with Directions for stoppage of work of 26 MW Co-generation plant. The Board has issued Directions for deposition of Environmental Compensation of Rs.69,90000/-for violation of the Directions of the*

Board vide letter dtd-28.02.2020 Here to ***marked and Annexed Exh. R-4*** *is* ***the copy of report dated 04/03/2020 submitted by Sub Regional Officer, MPCB, Ahmednagar to Dy. Conservator Forest, (Wildlife), Pune and the annexure thereto.***

Hence this report."

5. Finding that no service affidavit was on record, this Tribunal, vide order dated 12.05.2023, had directed the Registry to issue notice to all the respondents, who were not present on that date i.e. respondent No.1 and respondent Nos.5 to 10, as the remaining respondents had already appeared. The service affidavit dated 19.06.2023 has been filed (pages 526 to 544 of the paper-book), as per which the service is sufficient.

6. From the side of respondent No.11/Project Proponent, the reply affidavit dated 31.08.2020 has been filed, wherein preliminary objection has been raised with respect to maintainability of the present Original Application on the ground that the applicant has sought revocation of the permission dated 18.05.2018 granted by respondent No.3 in favour of respondent No.11 for construction of 26 MW Co-generation Power Plant on Survey No.51/1 of village Limpangaon. The said permission was granted to respondent No.11 to establish the said Co-generation Power Plant under Section 25 of the Water (Prevention and Control of Pollution) Act, 1974 (for short, "Water Act") and under Section 21 of the Air (Prevention and Control of Pollution) Act, 1981 (for short, "Air Act") and under Rule 5 of the Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2008. Therefore, if the applicant was not satisfied with the said permission, he could have filed an appeal under Section 28 of the Water Act to the Appellate Authority within thirty days read with Section 16 of the National Green Tribunal Act, 2010 ("NGT Act", for short) and even if by the order to be passed by the Appellate Authority, there would be any grievance, the applicant could have

approached this Tribunal under Section 16 of the NGT Act. Similarly, there is a provision under Section 31 of the Air Act to file an appeal before the Appellate Authority. If aggrieved by the order to be passed by the Appellate Authority, against the same, this Tribunal could have been approached under Section 16 of the NGT Act. The applicant despite being completely aware of the same, preferred Writ Petition before the Hon'ble High Court to challenge the impugned order dated 18.05.2018, which is hit by law of limitation. In order to avoid the law of limitation, the Writ Petition has been preferred by the applicant. The cause of action would be treated to have arisen in favour of the applicant by the impugned order dated 18.05.2018 on that very date. Therefore, under Section 14 of the NGT Act, within six months from the date of passing of that order, the Original Application ought to have been filed. Perusal of memo of Writ Petition No.11120/2019 would indicate that the same was filed on 03.09.2019 which was beyond the period of limitation of six months. Moreover, the Hon'ble High Court has not passed any categorical order condoning the delay in filing the present application.

7. It is further submitted that the cancellation of mutation entries in the land record is prayed, which is an issue which would not be covered in enactments specified in Schedule I to the NGT Act. Therefore, this Tribunal is not empowered to adjudicate the issue. Moreover, the mutation entries of which the applicant is seeking revocation, are entries which have been executed much prior in time, hence the prayer sought by the applicant is also hit by limitation under Section 14 of the NGT Act.

8. As regards merits, it has been submitted by the answering respondent that the applicant has failed to produce material on record to show that respondent No.11 has been violating the environmental laws. On the contrary, it is the case of the applicant that survey No.52/1, which is owned by respondent No.11, was originally forest land and the

same has been used by respondent No.11 for non-forest activity without conversion of the land in accordance with law. The applicant has made a bald allegation against respondent No.11 to the effect that survey No.52/1, on which respondent No.11 is constructing 26 MW Co-generation plant, falls within the eco-sensitive zone of the Great Indian Bustard (GIB). Therefore, the Consent to Establish dated 18.05.2018 accorded to respondent No.11 ought to be set aside. On both counts, the applicant has misrepresented the facts before this Tribunal as the land Survey No.52/1 was deforested by the Government of Maharashtra under G.L.R. and F.D. No.FLD/1870/67084-W dated 25.11.1970. Besides that, the Collector, Ahmednagar, by order dated 02.04.1971, under the provisions of Maharashtra Land Revenue Code, 1966, has conveyed the sanction for the land admeasuring 82 acres from Survey No.99/A (new Survey No.52/1) of village Limpangaon, Taluka Shrigonda, District Ahmednagar to respondent No.11. The Ministry of Environment, Forest and Climate Change, by notification dated 11.02.2020, in exercise of its powers under Section 3 of the Environment (Protection) Act, 1986 read with Rule 5 of the Environment (Protection) Rules, 1986, has notified an area to an extent varying from 0-400 mtrs around the boundary of the GIB Wildlife Sanctuary in Ahmednagar and Solapur District in the State of Maharashtra as the eco-sensitive zone. In terms of the notification dated 11.02.2020, respondent No.11, on 15.07.2020, received a letter from the Forest Area Officer informing respondent No.11 that survey No.52/2 of village Limpangaon, Taluka Shrigonda was beyond the eco-sensitive zone of the GIB and the distance between the GIB Wildlife Sanctuary and Survey No.52/2 as 8.52 kms., which proves the contention of the applicant in this regard to be false. Besides that, by notification dated 25.11.1970 of the Revenue and Forest Department, Govt. of Maharashtra, 82 acres of land at village Limpangaon, Taluka

Shrigonda ceased to be reserved as forest. The fact that 82 acres of survey no.99 (now survey no.52/1) was dereserved as forest, the provisions of the Indian Forest Act cease to apply on Survey no.99 (now survey No.52/1) since 25.11.1970. In the order dated 02.04.1971 issued by the Collector, Ahmednagar, it is categorically stated that Survey No.99/A has been deforested by G.L.R. and F.D. No.FLD/1870/67084-W and the land Survey No.99/A was accorded to respondent No.11 inter alia on the condition of establishing a sugar factory on the said land. Therefore, the contention of the applicant that Survey No.52/1 of village Limpangaon, Taluka Shrigonda (old Survey no.99/A) is a forest land, is erroneous as the same has been deforested and on that only, it was granted to respondent No.11 in accordance with law by the order of the Collector dated 02.04.1971, a copy of which is annexed at Annexure-R1.

9. Further it is submitted by respondent No.11 that the State of Maharashtra issued a notification dated 27.09.1979 to constitute an area of land as the GIB Wildlife Sanctuary. However, the Ministry of Environment, Forest and Climate Change, by notification dated 11.02.2020, notified an area of 0-400 mtrs around the boundary of GIB Wildlife Sanctuary in Ahmednagar and Solapur districts in the State of Maharashtra as the eco-sensitive zone. Survey No.52/2, wherein respondent No.11, has commenced the work of construction of the aforesaid Plant, is beyond the eco-sensitive zone notified in the notification dated 11.02.2020.

10. Further it is mentioned that it is abundantly clear that Survey No.52/1 has been dereserved forest in accordance with law and that it would be necessary for the applicant to show as to how the applicant has derived the knowledge that respondent No.11 is erecting 26 MW Co-generation Power Plant at Survey No.52/2. Further it is mentioned that a challenge is also made to the conduct of Public Hearing by the applicant.

As per the EIA Notification, 2006, a Public Hearing is conducted for the purpose of granting Environmental Clearance (EC) to the project. If at all the applicant was aggrieved by the conduct of the Public Hearing, the same could be a ground for challenge to the EC under Section 16 of the NGT Act. Under the provisions of Section 14, the applicant cannot raise a challenge to the conduct of a Public Hearing. The notification dated 11.02.2020 as well as the letter dated 15.07.2020 categorically state that Survey No.52/2 does not fall within the eco-sensitive zone. The Co-generation Plant of respondent No.11 is an integral part of the sugar factory. Respondent No.11 has installed a new 140 ton per hour capacity boiler for the Sugar Unit, Distillery and the Co-generation unit of respondent No.11. Since the boiler is used for Sugar Unit, Distillery Unit along with Co-generation Unit, there is no requirement of obtaining prior EC under the EIA Notification, 2006, merely for installing boilers. The installation of the boiler has been tried to be shown by the applicant to have been completed to the extent of 50%, which is also meant for Co-generation Plant according to the applicant and hence, would require prior EC, but the same is an erroneous fact because no work of Co-generation plant has been undertaken by respondent No.11 so far without obtaining prior EC in accordance with law. The work undertaken by respondent No.11 pertained to the installation of boilers, which had nothing to do with the construction of Co-generation Plant which would be undertaken only after obtaining EC.

11. Another affidavit dated 12.01.2021 has been filed by respondent No.11 at pages 327 to 329 of the paper-book, wherein it is submitted that it had moved an application for Consent to Operate for operating the proposed 26 MW Bagasse based Co-generation Power Plant at Survey No.52/2 of village Limpangaon, Taluka Shrigonda on 22.03.2019, which was considered in the meeting of Maharashtra Pollution Control Board

(MPCB) on 07.08.2019, 05.02.2020 and 13.11.2020 and it was decided to be kept in abeyance as respondent No.11 had not submitted the environmental compensation in terms of the show-cause notice dated 28.02.2020 issued by the MPCB. On 24.11.2020, the answering respondent paid an amount of Rs.69,90,000/- to the MPCB under protest against the show-cause notice dated 28.02.2020 and thereafter, the MPCB was pleased to accord respondent No.11 an approval for granting Consent to Operate in its meeting held on 30.12.2020 for the proposed 26 MW Bagasse based Co-generation Power Plant. It is also mentioned that the CAC, in the meeting dated 30.12.2020 noted that the EC for the project for proposed 26 MW Bagasse based Co-generation Power Plant of respondent No.11 was granted on 11.09.2019 and the area of the impugned project as clarified by the Forest Department did not fall within the forest area. The CAC decided to grant the 1st Consent to Operate to the said Plant subject to respondent No.11 apprising this Tribunal of the grant of the consent and subject to any directions of this Tribunal.

12. Another affidavit-reply dated 14.11.2021, re-filed on 02.02.2022, is found on record from the side of respondent No.11. This affidavit has been filed in response to the order of this Tribunal dated 21.09.2021, by which the information is provided with specific reference to Survey No.52/1 at village Limpangaon. It is submitted in this affidavit that old Survey No.99 in 1935 was divided into Survey Nos.99A and 99B. The land Survey No.99A was given new Survey No.234 admeasuring an area of 155.65 H.R. The survey No.234 was further sub-divided into Survey No.234/1 admeasuring an area of 122.46 acres and survey No.234/2 admeasuring an area of 33.18 H.R. Subsequently, the land bearing Survey No.234/2 admeasuring an area of 33.18 H.R. has been given a new Survey No.52/2 whereas the Survey No.234/1 admeasuring an area of 122.46 H.R. has been given a new Survey No.52/1. Out of the total

area of 122.46 H.R., an area of 35.90 H.R. is in possession of respondent No.11. Further it is mentioned that the Revenue and Forest Department of the Govt. of Maharashtra, vide resolution dated 01.04.1969, resolved to accord forest land in possession of the Government to the people who were cultivating the said land. In terms of the order of the Collector, the Tahsildar vide order dated 23.05.1969, permanently accorded the land to the cultivators subject to certain conditions. A copy of the said order is annexed as Annexure-R-1. On perusal of the Tahsildar's order dated 23.05.1969, the cultivators were accorded the land, the details of which are given in Table-A (page 377 of the paper-book). On perusal of the Tahsildar's said order, it is apparent that the two cultivators were accorded forest land at old survey No.99A vide the Collector's order dated 21.10.1969, details of which are given at Table-B. Further it is mentioned that in terms of resolution of the State of Maharashtra dated 01.04.1969, the Collector, Ahmednagar directed the transfer of the above stated survey numbers in favour of the cultivators who were cultivating the lands. Thereafter, the Tahsildar, vide order dated 23.05.1969, also directed that the above stated property be accorded to the cultivators of the land. On perusal of table-A at serial No.10, one Kisan Gangaram Sasane, was accorded 3 Acres (1.2 HR) vide Tahsildar's order dated 23.05.1969 and similarly, details of other cultivators have been given who were granted the lands subsequently.

13. Further it is mentioned that since 1969, no Authority has challenged the resolution dated 01.04.1969. On the contrary, all District Revenue Authorities have enforced the resolution of the State Government dated 01.04.1969 and have accordingly completed the vesting of the land Survey No.52/1 to the cultivators. Therefore, since the land stood vested in favour of the cultivators in 1969 and the same

has not been disturbed, the doctrine of desuetude would squarely be applicable to the facts of the present case.

14. It is further mentioned that respondent No.11 has merely exchanged the lands vested in the cultivators in the year 1969 through different orders passed by the Sub-Divisional Officer. Thus, when such large scale vesting of the land involving the State has been carried on over vast stretches of land, it is natural for respondent No.11 to assume that whatever actions are being taken, are in accordance with law, otherwise the State would certainly step into to prevent such a massive and prolonged breach of law. In the present case, the silence on the part of the State has led respondent No.11 to believe that there was no patent illegality in the vesting of the disputed land in favour of the cultivators and the subsequent exchange of land in favour of respondent No.11. Thus, the land admeasuring 35.90 HR of village Limpangaon, Taluka Shrigonda is now in possession of respondent No.11 in accordance with law and the contentions raised against it by the applicant have no force.

15. Reply of respondent No.5 – Collector, Ahmednagar and respondent No.6 – Sub-Divisional Officer, Karjet-Shrigonda Sub-Division has been filed, vide their affidavit dated 14.08.2023, wherein it is submitted that the Joint Committee, which was constituted by this Tribunal vide order dated 05.12.2019, has already submitted its report. Vide notification dated 11.02.2020, the MoEF&CC (not a party to the present proceeding) had notified eco-sensitive zone for Great Indian Bustard (GIB) Wildlife Sanctuary ranging 0 to 400 mtrs from the sanctuary boundary and as per that, the land of the project in question does not fall within eco-sensitive zone. Vide notification dated 25.11.1970, issued by Revenue and Forest Department, total 82 acres of land out of Gut No.52/2 situated at Limpangaon, Taluka Shrigonda, District Ahmednagar was de-notified as forest land, which came to be

published in Government Gazette dated 31.12.1970 and thereafter, this land came to be transferred for setting up the project by order dated 02.04.1971. However, after verification of the documents and map prepared by Dy. Superintendent of Land Record, Shrigonda, the total land of 35 hectors out of Gut No.52/1 situated at Limpangaon, Taluka Shrigonda was under control and possession of the sugar factory – respondent No.11, even though the said land was forest land. The Collector, Ahmednagar – respondent No.5, vide letter dated 03.03.2020, called for report from respondent No. 6 - Sub-Divisional Officer, Shrigonda in compliance with this Tribunal's order dated 05.12.2019, which was submitted on 04.03.2020. From the record, it is revealed that respondent No.11 – sugar factory has been erected on de-forested land bearing Survey No.52/2 in an area of 82 acres (33.18.41 H.R.) and all the mutation entries pertained to Gut No.52/2. However, as per the report of Tahsildar, Shrigonda – respondent No.6, total 35.90 H.R. of land of Gut No.52/1 under possession of sugar factory – respondent No.11, which is a forest land was not deforested. This land is granted by the then Tahsildar and then the same was exchanged by the then Sub-Divisional Officer, Shrigonda by issuing separate orders. However, the exchanged land i.e. total 35.90 H.R. bearing Gut No.52/1 is not deforested as per the available record. It appears that the said grant of land and exchange of land are in contravention of the provisions of the Forest Conservation Act. It is further mentioned that in above factual situation, all the mutation entries need revision by obtaining prior sanction of the State Government in view of the Government Gazette dated 11.04.2016. The details of the land given in exchange of land bearing Gut No.52/1 (Survey No.99A), area 35.90 H.R. are given in tabular form at pages 549 to 550 of the paper-book. It is further made clear in this affidavit that the process

of revision is going on as the same is said to be under consideration of the Government.

16. The stand taken by respondent Nos.3 and 4 – MPCB, through their affidavit dated 28.07.2023, is that the allegation made by the applicant is that respondent No.11 has set up 26MW Co-generation unit on land Gut No.52/2 of village Limpangaon, Taluka Shrigonda, District Ahmednagar, which falls in eco-sensitive zone. This Tribunal, vide its order dated 12.05.2023, stated that "*the question remains that the Consent to Establish was granted in the year 2018 when the Notification was not in force, therefore, the Respondent MPCB to explain as to why as per the then prevailing Rule, which says that in case there is no demarcation of the Eco-sensitive area by a Notification, the area of 10 Kms from the periphery of Sanctuary would be treated to be Eco-sensitive zone, would not be applicable to the present case.*" In this regard, it is submitted by the answering respondent that the Central Government had issued the guidelines for declaration of eco-sensitive zone around National Park Wildlife Sanctuaries on 09.02.2011 to all the States and requested to forward site specific proposals for declaration of eco-sensitive zone around such parks and sanctuaries. As per these guidelines, certain activities within eco-sensitive zone were also prohibited, but it may be noted that those were only guidelines issued by the Central Government through the Deputy Inspector General of Wildlife Department and were not a notification. Further it is mentioned that by virtue of notification dated 11.02.2020, the Central Government, in exercise of powers conferred by sub-section (1) and clause V and XIV of Sections 2 and 3 of Section 3 of the Environment (Protection) Rules, 1986, has declared/notified an area to an extent varying from 0 mtrs to 400 mtrs around the boundary of Great Indian Bustard Wild Life Sanctuary in Ahmednagar and Solapur districts of the State of Maharashtra as the

eco-sensitive zone. By this notification, the boundary described by the GIB Wildlife Sanctuary and its eco-sensitive zone was specified. This declaration was done for the first time which makes it clear that prior to that, no land was notified as eco-sensitive in the GIB Wildlife Sanctuary. Respondent No.11 – Industry applied for Consent to Establish for 26 MW Co-generation Plant on 01.03.2018, which was approved in the meeting of Consent Appraisal Committee (CAC) held on 18.05.2018, subject to the condition that the Industry shall not take any effective steps for implementation of the project without obtaining EC as per EIA Notification, 2006 and amendments thereto. As per Para 2 of EIA Notification dated 14.09.2006, the effective steps would include starting of any construction work or preparation of land by the project management. However, it is clarified by the MoEF vide Office Memorandum (OM) dated 19.08.2010 that fencing of the site to protect it from getting encroached and construction of temporary shed for the guard and acquisition of land shall not be treated as an effective steps. The answering respondent issued direction for stoppage of work of 26 MW Co-generation Plant vide letter dated 19.01.2019 as the Industry i.e. respondent No.11 had completed more than 50% work of installation of the said Co-generation Plant without prior EC. The answering respondent also forfeited the Bank Guarantee of Rs.10 lakhs for violation of conditions of Consent to Establish. The EC was granted by the Environment Department of State of Maharashtra vide letter dated 11.09.2019 to respondent No.11, which was brought to the notice by the Joint Committee in its report dated 06.03.2020. The answering respondent granted Consent to Establish on 18.05.2018 to respondent No.11 prior to Notification dated 11.02.2020, subject to certain terms and conditions and thereafter, it granted first Consent to Operate on 28.01.2021 to respondent No.11 after issuance of the EC dated

11.09.2019 and that of notification dated 11.02.2020. Copies of the Consent to Establish and Consent to Operate have been annexed as Annexure-I and Annexure-II, respectively.

17. The stand taken by respondent No. 8 – Chief Conservator of Forests (Wild Life), respondent No. 9 – Deputy Conservator of Forest and respondent No. 10 – Range Forest Officer (Territorial), vide their affidavit dated 23.09.2023 is that the averments made in this affidavit are based on the Joint Committee Report, which verified the available documents and record, which have been reproduced by us while dealing with the Joint Committee Report, hence they are not being re-produced here again. With respect to the division of old Survey No.99 of village Limpangaon, Taluka Srigonda and the new survey number being allotted, the same facts have been mentioned in this affidavit, which we have already taken into consideration while dealing with the affidavit of respondent Nos.5 and 6 i.e. the District Collector, Ahmednagar and Sub-Divisional Officer, Shrigonda. It is also reiterated by these respondents that eco-sensitive zone of GIB Wildlife Sanctuary in the range of 0 to 400mtrs was declared on 11.02.2020 as per which the project does not fall with the eco-sensitive zone. Further it is mentioned that eco-sensitive zones are not meant to hamper the day-today activities of local people but are meant for protected areas and refine the environment around them. As per the guidelines for declaration of eco-sensitive zone around protected area, regions providing connectivity and ecologically important patches as well as crucial for landscape linkage, if present around the protected area will be considered within eco-sensitive zone (ESZ). The ESZ may not be uniform all around and it could be variable in width and extent. As per the guidelines dated 09.02.2011, issued by the MoEF, the eco-sensitive zone around the National Park and Sanctuaries is to create some kind of “Shock Absorber” for the protected areas. They would also

act as a transition zone from areas of high protection to areas involving lesser protection. It has been decided that the National Board for Wildlife would regulate the activities in the eco-sensitive zone rather than prohibit them, unless otherwise is required. The revenue authorities are dealing with the subject land which prima facie is found to be forest land for which the revenue department has requested the Government for grant of permission for revision of the said land.

18. The applicant has filed affidavit-in-rejoinder dated 24.09.2020 against the reply of respondent No.11 dated 31.08.2019, wherein it is submitted that respondent No.11 has wrongly mentioned in paragraph Nos.1 to 3 of their reply that the applicant has stated that Co-generation Plant is situated in Survey No.51/1. In this regard, it is submitted that the applicant has categorically pleaded in Original Application that the Co-generation Plant is situated in Gut No.52/2. Gut No.52/1 is a reserved forest where there is illegal exchange of land made, whereas Gut No.52/2 is eco-sensitive zone where Co-generation Plant is established. The applicant has reiterated his version as stated in the Original Application and has denied the averments made by respondent No.11 in their affidavit. Most of the contents of this rejoinder are nothing but repetition, hence we do not deem it appropriate to reproduce them herein again.

19. The applicant has also filed objection dated 11.12.2020 against the Joint Committee Report, wherein it is submitted that it is clear from the record that 26 MW Co-generation project of respondent No.11 was granted Consent to Establish on 18.05.2018 and that the project is at a distance of 8.5 kms from GIB Bird Sanctuary. So, on 18.05.2018, the said project was within the eco-sensitive zone of the GIB Bird Sanctuary and was to be governed by the guidelines dated 09.02.2011 issued by the MoEF. Further it is mentioned that the order dated 04.12.2006 of the

Hon'ble Apex Court in ***Goa Foundation Vs. Union of India, Writ Petition No.460 of 2004***, mandates that the project proponent must seek prior environmental clearance from Standing Committee of National Board for Wildlife before seeking environmental clearance as per EIA Notification, 2006. Even otherwise, as per Para 2 of the EIA Notification 2006, the power plant of more than 25 MW needs prior environmental clearance from the Central Government, if the project falls wholly or in part within 10 kms from the boundary of the protected area, to hold that the project does not fall within eco-sensitive zone. (We find that in Para 2 of the said EIA Notification, there is no such stipulation as mentioned in this paragraph by the applicant, rather we find that the Thermal Power Plant of less than 50 MW and equal or more than 50 MW capacity would be covered in "B" category project, which needs prior environmental clearance from SEIAA and not from the Central Government, as the said category project is covered in Schedule-I(D) of the Schedules to EIA Notification, 2006). According to the applicant, it is apparent that the said Co-generation Plant set up by respondent No.11 is without complying with the law in force at the relevant time and that the Project Proponent cannot be benefitted by applying retrospectively the Notification dated 11.02.2020, hence, respondent No.11 cannot be allowed to proceed with the said project, which was set up in violation of the laws in force at the relevant time. The said project was started on 18.05.2018 i.e. almost two years prior to issuance of Notification dated 11.02.2020, which fact has been ignored by the Joint Committee.

20. With respect to the exchange of forest land of the GIB Bird Sanctuary to respondent No.11 in contravention of the provisions of the Forest Conservation Act, 1980, it is submitted that findings given by the Joint Committee in para (iii) of the report are not clear as to what steps would be taken up by the respondent Authorities. From the findings of

the Joint Committee, there is no manner of doubt in the present case, that 55.90 Hectare "Reserved Forest" land is acquired by respondent No.11 in contravention of the Forest Conservation Act and Rules. The Hon'ble Supreme Court in the matter of ***A. Chowgule and Co. Ltd. Vs. Goa Foundation and Ors.; 2008(12) SCC 646***, has held, "*for the diversion of any forest land and its use for some other purpose, prior approval from Central Government is required and a lease obtained otherwise will be null and void.*" In view of above, the said land requires forthwith to be handed over back to Forest Department as per law and that the finding of the Joint Committee report in paragraph No.(i) needs to be rejected and that of paragraph No.(iii) needs to be accepted.

21. The applicant has filed rejoinder to the additional affidavit dated 14.11.2021 filed by respondent No.11, wherein all the averments made in respondent No.11's affidavit are stated to be false and misleading and the averments made by the applicant in their Original Application have been re-asserted.

22. On the basis of above pleadings of the parties, following issues are framed to be decided by us :

Issues :

(i) Whether the Consent to Establish dated 18.05.2018, which has been prayed to be declared illegal, for construction of 26 MW Co-generation Power Plant by respondent No.11 on Gut No.52/2 of village Limpangaon, Taluka Shrigonda, District Ahmednagar is in contravention of the Forest Conservation Act and the Guidelines dated 09.02.2011 issued by MoEF ?

(ii) Whether the Mutation Entries, contained in Annexure-G to the application, are illegal and contrary to the Forest Conservation Act and hence, need to be quashed ?

(iii) Whether the land to the extent of 36 Hectors of Gut No.52/1 of village Limpangaon, Taluka Shrigonda, District Ahmednagar needs to be handed over to the Forest Department ?

Findings :

Issue No.(i) :

23. As per this issue, we have to decide as to whether the Consent to Establish dated 18.05.2018, which has been prayed to be declared illegal, for construction of 26 MW Co-generation Power Plant by respondent No.11 on Gut No.52/2 of village Limpangaon, Taluka Shrigonda, District Ahmednagar is in contravention of the Forest Conservation Act and the Guidelines dated 09.02.2011 issued by MoEF ? From the Joint Committee Report, against which the applicant has already filed objections which we have dealt with above, wherein the applicant has mainly raised objection to the effect that the Joint Committee has failed to appreciate that the Consent to Establish the Co-generation Plant was granted in the year 2018, while the Notification declaring eco-sensitive zone of the Great Indian Bustard (GIB) Bird Sanctuary dated 11.02.2020 is of subsequent date, which lays down the extent of eco-sensitive zone as 0 to 400 mtrs and hence, it is concluded by the Joint Committee that the project in question does not fall in eco-sensitive zone. The Co-generation Plant came to be established in the year 2018 and the Notification was issued by the MoEF on 11.02.2020, which should not have been relied upon by the Joint Committee and that the benefit of that Notification cannot be extended to respondent No.11 retrospectively. The objection raised by the applicant to this extent is found to be valid by us also, but the Joint Committee has clearly stated in its report that respondent Nos.3 and 4 – MPCB had granted Consent to Establish to respondent No.11 for installation of 26 MW Co-generation Plant on Gut No.52/1 of village

Limpangaon, Taluka Shrigonda, District Ahmednagar on certain conditions that it shall not take effective steps for implementation of the project without obtaining prior environmental clearance in accordance with EIA Notification, 2006 and amendments thereto and that the said Industry would also submit Bank Guarantee of Rs.10 lakhs, having validity upto obtaining of EC and first Consent to Operate from the MPCB. The MPCB had also issued directions for stoppage of the work of the said Plant vide letter dated 19.01.2019 against the Industry as it had completed its 50% work of installation of Co-generation Plant without obtaining prior EC. For that reason, the MPCB had also forfeited the Bank Guarantee of Rs.10 lakhs vide letter dated 19.01.2019 for violating the terms and conditions of Consent to Establish for the said Plant. The Board had also issued a show-cause notice to respondent No.11 for refusal of the first Consent to Operate for the said project on 24.12.2019 due to violation of the conditions of Consent to Establish and violations to comply with the directions of stoppage of work, for which the Board had issued a direction to respondent No.11 to deposit Environment Damage Compensation (EDC) of Rs.69,90,000/-. Annexure-N to the said Joint Committee Report is the show-cause notice issued by the Board to respondent No.11 directing it to deposit an amount of Rs.69,90,000/- as EDC, which was assessed on the principle "*Polluter Pays*" as per order dated 28.08.2019 passed by the National Green Tribunal, for the period from 19.01.2019 (the date when the stoppage of work order was issued) to the date of obtaining the EC i.e. 11.09.2019 (total 233 days). Though the MPCB has not specifically mentioned as to on the basis of which guidelines/formula, that amount has been computed, we are of the view that it must have been done in accordance with the CPCB guidelines and that no objection appears to have been taken in this regard by any of the parties that the said calculation/computation has been wrongly done.

24. At this juncture, we may usefully refer to the report of the CPCB In-house Committee on "Methodology for Assessing Environmental Compensation and Action Plant to Utilize the Funds", which outlines a formula for imposing environmental compensation on industrial units for violation of directions issued by regulatory bodies listing the instances for taking cognizance of cases fit for violation and levy environmental compensation. The same has also been referred by this Tribunal in order (paras 14 to 16) dated 28.08.2019 in the matter of ***Original Application No.593/2017 in the Paryavaran Suraksha Samiti & Anr. Vs. Union of India & Ors***. The instances considered for levying Environmental Compensation (EC) in the said report are :

"a) Discharges in violation of consent conditions, mainly prescribed standards / consent limits

b) Not complying with the directions issued, such as direction for closure due to non-installation of OCEMS, non-adherence to the action plans submitted etc.

c) Intentional avoidance of data submission or data manipulation by tampering the Online Continuous Emission / Effluent Monitoring systems.

d) Accidental discharges lasting for short durations resulting into damage to the environment.

e) Intentional discharges to the environment -- land, water and air resulting into acute injury or damage to the environment.

f) Injection of treated/partially treated/ untreated effluents to groundwater.

The formula takes into account of number of days violation took place, pollution index of unit, scale of operation, location factor based on population and an amount factor in Rupees. Environmental Compensation (EC) in Rupees as mentioned in the aforesaid CPCB report for Construction on Plot A = PI x N x R x S x LF Where,

PI = Pollution index of the project. Considering the project under Orange category as per modified directions no. B-29012/ESS/(CPA)/2015-16 dated07/3/2016, PI = 50

N = Number of days violation took place.

R is a factor in Rupees, which may be a minimum of 100 and maximum of500. The aforesaid report also suggests to consider R as 250, as the Environmental Compensation in cases of violation. Hence, R = 250.

S = Factor for the scale of operation. As per CTE issued by MPCB, it is large scale industry (LSI). The unit being LSI, S=1.5

LF = Location factor, since the population is more than 1 Million but less than 5 Million, LF=1.25

25. We find on our own that after applying the CPCB formula for assessing the EDC amount, the amount calculated by the MPCB is found to be almost correct. Respondent No.11, in its affidavit dated 11.01.2021, has also clearly stated that the said amount has been paid by them under protest. Since we find that the said amount, which was calculated for the violation committed by respondent No.11 by initiating setting-up of the Co-generation Plant in question soon after the Consent to Establish was granted on 18.05.2018 without obtaining prior EC as per the terms and conditions, the MPCB appears to have rightly imposed EDC of Rs.69,90,000/- upon respondent No.1 for the said period of default, because subsequent to that date i.e. 19.01.2019, it is admitted by the applicant as well, that on 11.01.2020, the eco-sensitive zone was determined by the Central Government by the said Notification to the extent of 0 to 400 mtrs and by that standard, the land where this Co-generation Plant has been set up, would fall outside the eco-sensitive zone area. It is also recorded in the Joint Committee Report that this Co-generation Plant is situated in in Gut No. 52/2, which is deforested land.

In view of the deposit of the EDC amount by respondent No.11, we are of the view that the prayer made by the applicant to declare the Consent to Establish dated 18.05.2018 to be illegal, has become infructuous. We may also take into consideration this fact because subsequently, the EC was also granted on 11.09.2019. In view of above, we hold that this issue needs to be decided in negative to the effect that the permission (Consent to Establish) granted on 18.05.2018 cannot be held to be illegal.

Issue Nos.(ii) and (iii) :

26. With respect to issue that whether the Mutation Entries with respect to the Forest area of Survey No.52/1 of village Limpangaon, Taluka Shrigonda, District Ahmednagar, which has been allowed to be exchanged by other land in favour of respondent No.11, need to be declared illegal and quashed, we may note here that from the affidavit of respondent Nos.5 and 6, it is clear that though it is noted in that affidavit by the revenue Authorities that it appeared to them that the grant of land and exchange of land were in contravention of the provisions of the Forest Conservation Act, 1980, but its revision is now being pursued before the State Government, which is going on. Therefore, we are not inclined to entertain this aspect of the dispute. We are also of the view that whether the land has been converted into a non-forest and the legality or illegality thereof may be got determined before the appropriate forum by the party aggrieved. Here, we are inclined to consider only whether the Plant in question was hit by the guidelines which are prescribed for eco-sensitive zone area. We also render our finding in that regard that even the Joint Committee, with which we are in full agreement, does not state that the Plant in question is not located in Gut number which is inside the eco-sensitive zone area of GIB Wildlife Sanctuary. Accordingly, Issue Nos. (ii) and (iii) are not being disposed of by us. No findings are rendered on these issues.

27. In view of our finding on Issue No.(i), this Original Application is disposed of.

28. No order as to costs.

Dinesh Kumar Singh, JM

Dr. Vijay Kulkarni, EM

JANUARY 10, 2024
OA NO.84/2019(WZ)
npj

TRUE COPY

Service : Reply in EA No. 22 of 2023 (WZ) in OA No. 70 of 2017 (WZ) between Karim Jahangir Shaikh Vs. Sahakar Maharishi Shivajirao Narayanrao Nagawade, Ssk Ltd. & Ors.

1 message

Adv Sangramsingh R Bhonsle <srb.chambers@gmail.com> Mon, Sep 2, 2024 at 6:07 PM
To: ms@mpcb.govin, "sroahmednagar@mpcb.gov.in" <sroahmednagar@mpcb.gov.in>, collector.ahmednagar@maharashtra.gov.in, psec.env@maharashtra.gov.in, aniruddha1488@gmail.com, tanaji gambhire <tanaji9june@gmail.com>
Cc: Sangramsingh Bhonsle <sangramsinghbhonsle@gmail.com>

Sir,

We are the Advocates appearing on behalf of the Respondent No. 1 in the abovementioned matter. We are filing an Reply on behalf of the Respondent No. 1 on 02.09.2024.

Please find attached herewith the copy of the same and consider this email as the service of the same on your esteemed office.

Regards,
Sangramsingh R. Bhonsle
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Supreme Court of India
H-5, Second Floor, Lajpat Nagar III,
New Delhi - 110024.
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Karim Seikh Reply Final.pdf