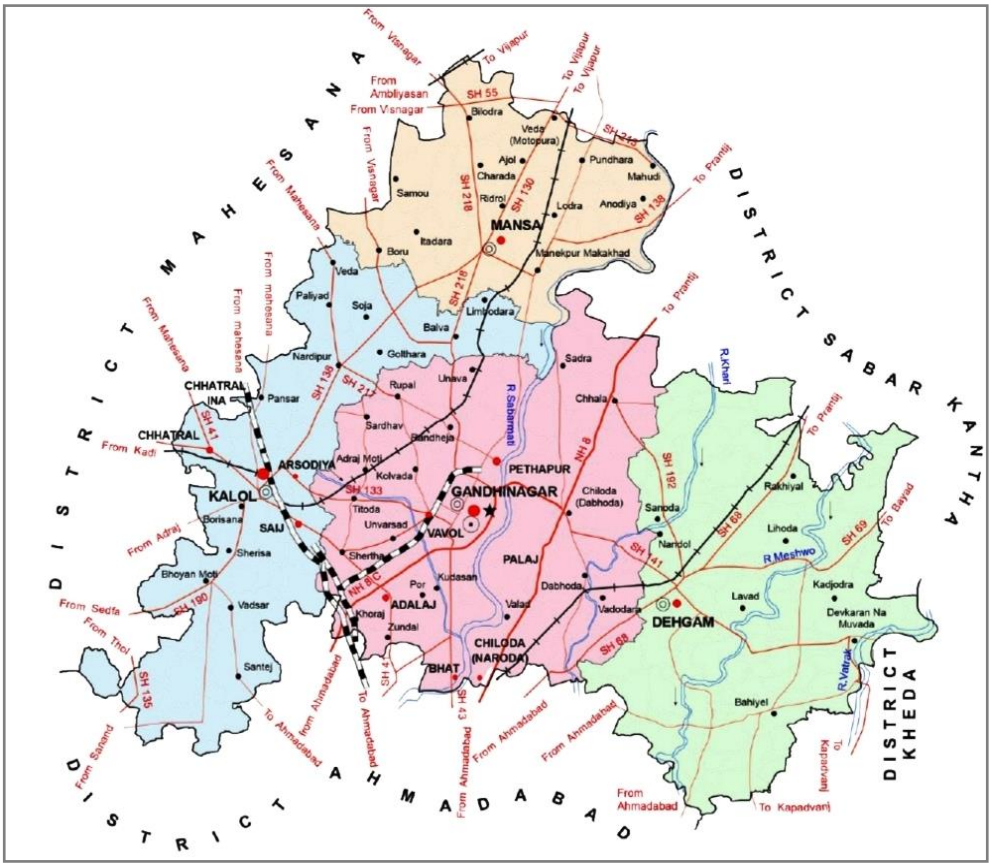
Action Taken Report in the

Hon'ble National Green Tribunal (NGT) Matter O.A: 228/2022

(News item published in The Indian Express dated 19/03/2022 titled

"STP given nod to discharge treated sewage into Thol")

(As per Order of Hon'ble National Green Tribunal, Principal Bench, New Delhi dated 29/03/2022 in O. A. No. 228/2022)



Prepared by:

Joint Committee formed by Hon'ble National Green Tribunal vide order dated 29/03/2022 in O. A. No. 228/2022

Action Taken Report in the Hon'ble National Green Tribunal (NGT) matter O.A: 228/2022 [News item published in The Indian Express dated 19/03/2022 titled "STP given nod to discharge treated sewage into Thol"].

(As per Order of Hon'ble National Green Tribunal, Principal Bench, New Delhi dated 29/03/2022 in O. A. No. 228/2022)

The Joint Committee

Sr. No.	Name	Designation	Signature
1.	Shri S. J. Pandit	Member Secretary, State Wetland Authority	
2.	Shri D. C. Vankani	Nodal Officer, Gujarat Pollution Control Board	
3.	Smt. K. A. Vaghela	Sub Divisional Magistrate – Kalol and representative of District Magistrate – Gandhinagar	
4.	Shri P. C. Dave	Sub Divisional Magistrate – Kadi and representative of District Magistrate – Mehsana	
5.	Dr. Nripendra Senwal	Scientist–C, Regional Directorate–Vadodara, Central Pollution Control Board	

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List of Annexure

CHAPTER - 1

1.1 Introduction – Hon'ble National Green Tribunal Order dated 29/03/2022

It was reported in the news paper i.e. The Indian Express dated 19/03/2022 titled **"**STP given nod to discharge treated sewage into Thol" (Annexure-1). Hon'ble National Green Tribunal, Principal Bench, New Delhi in O. A. No. 228/2022 has issued order dated 29/03/2022 in this matter and directed to cross check the media report and remedial action by the joint committee formed in the said order dated 29/03/2022" (Annexure-2).

The relevant part of Hon'ble National Green Tribunal order dated 29/03/2022 is reproduced as below:

1. *Proceedings in this matter have been initiated on the basis of captioned media report to the effect that the STP proposed to be set up in Kalol town of Gandhinagar District in Gujarat has been permitted to discharge treated waste water into a lake which is a protected wetland and also declared a Ramsar site of international importance. The lake is fresh water lake and if waste water is discharged therein, the eco-system of lake will suffer.*

2. *We are satisfied that the media report needs to be cross-checked and remedial action taken by a joint committee comprising the CPCB, State PCB, the State Wetland Authority and the District Magistrates, Gandhinagar and Mehsana. The Committee may undertake visit to the site, ascertain facts, interact with the concerned stakeholders and furnish a factual and action taken report in the matter within two months. In particular, it may be specified whether treated sewage can be utilized for secondary purposes instead of being discharged into the wetland.*

Sewage Treatment Plant (STP) of 33.1 MLD is proposed by Kalol Nagarpalika for the treatment of sewage generated from Kalol Town of Gandhinagar District (Gujarat) and nearby area of Ahmedabad Urban Development Authority (AUDA). Sewage Treatment Plant is proposed to be setup near oxidation pond of

Kalol Nagarpalika. Project of Kalol Nagarpalika Sewage Treatment Plant (STP) is to be executed by Gujarat Urban Development Company Limited (GUDC), a government agency engaged in urban infrastructure project. Detailed Project Report (DPR) of this Sewage Treatment Plant is prepared by Tata Consulting Engineers Limited. Sewage Treatment Plant (STP) of Kalol Nagarpalika is at tendering stage and construction work is not started yet.

1.2 Present Status

- Presently sewage generated from Kalol Town of Gandhinagar District is treated in Oxidation Pond, a conventional treatment scheme for treatment / disposal of the sewage.
- Kalol Nagarpalika has proposed Sewage Treatment Plant of 33.1 MLD capacity for treatment of sewage generated from Kalol town and Ahmedabad Urban Development Authority (AUDA) area near existing oxidation pond of Kalol Nagarpalika.
- Detailed Project Report for the proposed Sewage Treatment Plant of Kalol Nagarpalika is prepared by Tata Consulting Engineers Limited and approved by Gujarat Urban Development Company Limited (GUDC), project executing government agency.
- Principal Chief Conservator of Forest, Wild life has issued letter dated 04/09/2021 to Vice President (Project) – Gujarat Urban Development Company Limited (GUDC) regarding approval for disposal of treated wastewater from Sewage Treatment Plant of Kalol Nagarpalika into Thol Lake through Saij – Hajipur Natural Drain. The said letter and its English translated version at attached as Annexure-4.
- Gujarat Pollution Control Board has issued Direction dated 21/04/2022 to Kalol Nagarpalika to ensure that sewage is not discharged to Thol Sanctuary and surrounding eco sensitive area in any case. (Annexure-3).

1.3 Constitution of the Joint Committee as per Hon'ble National Green Tribunal Order

As per Hon'ble National Green Tribunal Order dated 29/03/2022 in O. A. No. 228/2022, a Committee is constituted as below:

Sr. No.	Name	Designation
1.	Shri S. J. Pandit	Member Secretary, State Wetland Authority
2.	Shri A. V. Shah	Member Secretary, Gujarat Pollution Control Board
2.	Smt. K. A. Vaghela	Sub Divisional Magistrate, Kalol and representative of District Magistrate – Gandhinagar
3.	Shri P. C. Dave	Sub Divisional Magistrate, Kadi and representative of District Magistrate – Mehsana
4.	Dr. Nirpendra Semwal	Scientist–C, Regional Directorate, Vadodara, Central Pollution Control Board

1.4 Introduction of Thol Lake

Thol Lake is an artificial lake near Thol village in Taluka: Kadi, District: Mehsana, Gujarat. It was constructed as an irrigation tank in 1912 by Gaekwad regime to provide irrigation facilities to farmers. It is a fresh water lake surrounded by marshes. It was declared the Thol Bird Sanctuary in 1988; it is a habitat to 150 species of birds, about 60% are water birds. Many migratory birds nest and breed in the lake and its periphery. The two most prominent species of birds recorded in the sanctuary are flamingos and sarus crane (Grusantigone). The Thol Lake Wild Life Sanctuary is also declared as *Ramasar Site* during the year 2021.

The lake has a catchment area of 15,500 hectares (38,000 acres). It is in a semi-arid zone of the Mehsana district with dominance of dry deciduous vegetation. The climate in the area consists of three seasons: winter, summer and monsoon. The average annual rainfall in the catchment of the lake is 600 millimetres (24 in) with a minimum of 100 millimetres (3.9 in) and maximum of 800 millimetres (31 in). The maximum and minimum temperatures recorded in the area are 43 °C and 8 °C.

The lake is situated near Thol village 20 kilometres from Kalol in Gandhinagar district and 75 kilometres from Mehsana in Mehsana District. The lake has a storage capacity of 84 million cubic metres. Its maximum water spread area is around 500 hectares. Thol Lake, as a bird sanctuary, is an inland wetland and a protected area known as a very good habitat for waterfowl during the monsoon season, extending through the winter. It is a Ramsar Site. Photographs of Thol Lake are enclosed as Annexure-5. (Source: From Thol Lake Department)

1.5 Discussion note of the Joint Committee meeting held on 28/04/2022

Meeting of the Joint Committee was held on 28/04/2022 at Thol Lake.The stake holders including nearby villagers, bird watchers and tourists and other government agencies were also invited for the discussion and to get their views, objections and suggestions in the matter. List of Participants present during the meeting at Thol Lake is attached as (Annexure –6) and photographs of the meeting of the Joint Committee with the stake holders as (Annexure – 7).

During meeting, Member Secretary – State Wetland Authority briefed the stake holders and other participants regarding Hon'ble National Green Tribunal (NGT) order dated 29/03/2022 in the matter O.A. 228/2022 (News item published in The Indian Express dated 19/03/2022 titled "STP given nod to discharge treated sewage into Thol") and informed regarding purpose of visit of joint committee in compliance of the order.

Representation received from stake holders during meeting on 28/04/2022 is included in Chapter - 2 of this report.

On 28/04/2022 in the forenoon (before Joint Committee meeting at Thol lake), Joint Committee member from Central Pollution Control Board (Regional Directorate – Vadodara) and officials from Gujarat Pollution Control Board (Regional Office – Gandhinagar) carried out survey of natural drain carrying sewage from Oxidation Pond of Kalol town and it was observed that due to natural gradient the sewage in the natural drain flows towards Thol Lake. It was observed that agricultural fields are spread around this natural drain and on some places sewage

is overflowed from the drain and spread in the nearby agricultural fields and on some other places sewage is taken into agricultural fields through pumping. This has resulted in progressive decrease of sewage flow in the natural drain in the downstream and ultimately the drain dried up before reaching Thol Lake. Photographs showing dried areas before reaching the Thol Lake are attached as Annexure – 8. It shows the possibility that if sewage is not diverted into agricultural fields and / or during rainy season, the wastewater will ultimately reach to Thol lake.

The Joint Committee decided to collect water samples from two different representative pockets of Thol Lake to have base line data of water quality for any future reference. The samples were collected and analyzed in Central Laboratory of Gujarat Pollution Control Board at Gandhinagar. The Analysis Results of samples collected at Thol Lake and images of sampling locations are given at Annexure- 9.

Having good informative discussions amongst Joint Committee members and various stake holders, it was decided by the Joint Committee to form Sub-Committee comprising of Sub-Divisional Magistrate – Kalol as Chairman, Sub-Divisional Magistrate – Kadi and Regional Officer, Gujarat Pollution Control Board, Gandhinagar as members to explore alternate utilization / disposal of treated sewage from proposed Sewage Treatment Plant of Kalol Nagarpalika preferably within 20 Km radius of the Kalol town so as to ensure no direct / indirect discharge in Thol Lake. Sub-Committee is formed as under:

Designation of Officer	Designation in the Committee
Sub Divisional Magistrate – Kalol	Chairman of the Committee
Sub Divisional Magistrate – Kadi	Member
Regional Officer – Gandhinagar, Gujarat Pollution Control Board	Member Secretary

i. It was decided that this sub-committee may take assistance from any other expert / agency other than above, if found necessary.

ii. Report consisting of the alternate utilization of treated sewage for secondary purposes shall be submitted to the Joint Committee within two weeks.

CHAPTER – 2

2.1 Representations from the Stake Holders present during meeting of joint committee on 28/04/2022

The stake holders were also invited during joint committee meeting held on 28/04/2022 at Thol Lake for the discussion and to get their views, objections and suggestions in the matter. Following representation were received from the stake holders during meeting on 28/04/2022.

In the beginning various stake holders like nearby villagers, bird watchers and experts have submitted their representation as below:

1. **Shri Vijaybhai A. Patel, Resident and Owner of Agriculture Land at Thol Village, Dist: Mehsana**

- Water from Thol Lake is taken from Village Pond for utilization in domestic and agriculture use.
- He expressed his concern about discharge of treated domestic wastewater from proposed STP of Kalol Nagarpalika, if the same contains industrial wastewater from industries located in GIDC. Kalol area as it adversely affects the health of nearby villagers, animal drinking this wastewater and contamination of crops in the farm. Otherwise if, treated domestic wastewater without industrial wastewater is available for irrigation then it was accepted.

2. **Shri Popatji Kacharaji Thakor, Resident of Bhoyan Moti Village, Ta: Kalol, Dist: Gandhinagar**

- Wastewater coming through natural drain to the Thol Lake might be contaminated with the wastewater of the Industries. If it is discharged into Thol Lake, it will have adverse effect on fishes, animal and citizen relying on the Thol Lake.

- Presently foul odour is felt in his village when this wastewater passing via village Bhoyan Moti through Natural Drain.
- Birds used to come at the pond of Village Bhoyan Moti before 10 years. Presently, no birds are seen at the pond of his village Bhoyan Moti.
- If the proposal of Sewage Treatment Plant (STP) with discharge of effluent to Thol Lake is considered, it will have major effect on tourism of Thol Lake also.
- He raised his concerns regarding health of Bhoyan Moti Villagers, animals if this proposal is considered.

3. Shri Uday Vora, Retired CCF and Former Expert Member of National Wetland Committee

- Water level at Thol Lake will fluctuate if such large quantum treated wastewater is allowed to be discharged into Thol Lake. Fluctuation in the water level will have adverse effect on the ecosystem of Thol Lake. As a result of this discharge, the waterfowl habitat of Thol Wild Life Sanctuary will be inundated and destroyed.
- Further, he mentioned about Section-29 of the Wild Life (Protection) Act – 1972, which reads as follow

"*No person shall destroy, exploit or remove any wild life including forest produce from a sanctuary or destroy or damage or divert the habitat of any wild animal by any act whatsoever or divert, stop or enhance the flow of water into or outside the sanctuary, except under and in accordance with a permit granted by the Chief Wild Life Warden, and no such permit shall be granted unless the State Government being satisfied in consultation with the Board that such removal of wild life from the sanctuary or the change in the flow of water into or outside the sanctuary is necessary for the improvement and better management of wild life therein*"

- If the order of Chief Wild Life Warden is without the consent of State Government or State Wild Life Board, it would be violation of Section-29 of the Wild Life (Protection) Act – 1972.
- Treated water will not be as natural as fresh water which is coming to the lake. Treated wastewater will be polluted to some extent or may have adverse quality in unforeseen situation.
- Eutrophication will take place due to discharge of treated wastewater as it will contain nutrients. This will result into growth of unwanted vegetation and will also reduce the availability of open water sub habitat for the birds.
- If this Sewage Treatment Plant (STP) includes industrial effluent and proposes to discharge effluent into Thol Lake then it requires prior Environment Clearance (EC), it will fall under Category – A of the EIA Notification and Environment Impact Assessment report (EIA) is required in this scenario.
- Thol Lake does not fall under the command area of the Sardar Sarovar. Hence, separate EIA report is required.
- In case of effluent to be used for irrigation then alternative bypass routes for irrigation canals from the Thol Lake / tank should be explored.
- There is no objection against Sewage Treatment Plant (STP) of Kalol Nagarpalika but Environment sound disposal / utilization of treated wastewater should be ensured.
- Thol Lake is an important wetland. Red Breasted Goose, one of the rarest seen bird was found in Thol Lake this year after so many years.

4. Shri Kandarp Kathju, eminent bird watcher

- He informed that he is used to visit this area before Thol Sanctuary as this is a traditional catchment area and further informed that, if treated domestic water is allowed to be discharged into Thol Lake, it will adversely affect the migratory birds and will have long term effects on ecosystem.

2.2 Representation from Chief Officer – Kalol Nagarpalika during meeting of joint committee on 28/04/2022

Following statements were made by Shri. N. N. Bodat, Chief Officer – Kalol Nagarpalika, Dist: Gandhinagar:

- This proposal of Sewage Treatment Plant (STP) is for treatment and discharge of domestic wastewater only and in industrial wastewater will not be mixed in any case.
- The capacity Sewage Treatment Plant (STP) of Kalol Nagarpalika would be 33.1 MLD. Capacity of this Sewage Treatment Plant (STP) is designed keeping in view the sewage generation for next 30 years.
- Present generation of sewage is 22 MLD which consists of 12 MLD from Kalol Nagarpalika area and 10 MLD from Ahmedabad Urban Development Authority (AUDA) area.
- The technology used for the proposed Sewage Treatment Plant (STP) is based on Sequential Batch Reactor (SBR) with provision for online monitoring of treated wastewater parameters as per the guidelines of Central Pollution Control Board and the order of Hon'ble National Green Tribunal (NGT) in the matter O.A. no: 1069/2018 dated 30/04/2019.
- They are planning to utilize the treated wastewater from the proposed STP in the Garden area of Kalol Nagarpalika and to meet water demand / requirement of the construction activities and also supply of treated wastewater to industrial units within 50 KM radius using 1,00,000 Litre/Day or more water as per treated water reuse policy of the State Government.

CHAPTER – 3

3.1 Discussion note of the Sub-Committee meeting held on 10/05/2022

Meeting of the sub-committee was conducted under the chairmanship of Sub Divisional Magistrate – Kalol at Prant Office – Kalol on 10/05/2022 for exploring alternate utilization / disposal of treated sewage from proposed Sewage Treatment Plant of Kalol Nagarpalika preferably within 20 Km radius of the Kalol town so as to ensure no direct / indirect discharge in Thol Lake. Officials from following concerned government departments, industries and industrial associations were invited and present during meeting.

- Panchayat Irrigation Department, Gandhinagar
- Gujarat Water Supply & Sewerage Board (GWSSB), Kalol
- Drainage (Kans) Department, Gandhinagar
- Mamlatdar and Executive Magistrate (Kalol – City), Kalol
- Sardar Sarovar Narmada Nigam Limited (SSNNL), Kalol
- Chief Officer (Kalol Nagarpalika), Kalol
- Kalol GIDC Industrial Association (CETP), Kalol
- Kalol GIDC Industrial Association, Kalol
- Indian Farmer Fertilizer Cooperative Limited (IFFCO) – Kalol Unit

Shri S. Mohan, Jt. General Manager (EPC), Indian Farmers Fertilizer Cooperative Limited, Kalol Unit submitted following statement during meeting.

- Source of fresh water for Indian Farmers Fertilizer Cooperative Limited, Kalol Unit is from Main Narmada Canal. Water requirement is around 12 MLD (including township). Approximately 7.5 MLD water is used in cooling process, 4.2 MLD water is used in DM plant for steam generation and 0.8 MLD water is used in service water, drinking, township etc.
- They are having continuous process plant. If the parameter of the treated sewage is not as per their acceptance criteria, it may affect the functioning of the plant.

Shri N. N. Bodat, Chief Officer, Kalol Nagarpalika submitted following statement during meeting.

- Plant layout of STP includes treated wastewater storage tank and pumping station only. There is no provision for distribution of treated sewage.

Shri Subhash Gadhavi, President, Kalol GIDC Industrial Association, Kalol submitted following statement during meeting.

- Total 180 numbers of industries (Engineering unit, Rolling Mill Unit and Chemical units etc) are situated in GIDC Kalol. 2 MLD of fresh water is consumed in by these units from GIDC Bore well.

Shri R. J. Manaloor, Deputy Executive Engineer, Drainage Sub Division – 2, Gandhinagar submitted following statement during meeting.

- Natural drain is for disposal of surface run-off only during monsoon season.
- If treated wastewater is discharged into natural drain for irrigation purpose than residues of wastewater might reach to Thol Lake in monsoon season.

Shri Sindhu Kumar, Sardar Sarovar Narmada Nigam Limited (SSNNL), Kalol informed that through Narmada Canal water is distributed to:

1) Adani Shantigram Township – 3.784 MLD
2) Indian Farmers Fertilizer Cooperative Limited (IFFCO), Kalol Unit – 11.198 MLD
3) Arvind Ltd, Santej & Arvind and Smart Value Homes LLP – 1.29 MLD
4) Zydus Life Sciences – 1.254 MLD

He further informed that, except Indian Farmers Fertilizer Cooperative Limited – Kalol Unit, water is distributed for domestic including drinking purpose only. Water distribution to Indian Farmers Fertilizer Cooperative Limited (IFFCO), Kalol Unit includes for domestic and industrial purpose.

After detailed discussion in the meeting, it was decided to conduct final meeting of sub-committee with concerned government departments, industries and industrial associations on 12/05/2022 for proposing alternate utilization / disposal of treated wastewater from proposed Sewage Treatment Plant of Kalol Nagarpalika ensuring no direct / indirect discharge in Thol Lake. Minutes of the meeting of Sub-Committee held on 10/05/2022 is attached as Annexure-10.

3.2 Discussion note of the Sub-Committee meeting held on 12/05/2022

Meeting of the sub-committee was conducted under the chairmanship of Sub Divisional Magistrate – Kalol at Prant Office – Kalol on 12/05/2022 in continuation of sub-committee meeting dated 10/05/2022 for exploring alternate utilization / disposal of treated sewage from proposed Sewage Treatment Plant of Kalol Nagarpalika preferably within 20 Km radius of the Kalol town so as to ensure no direct / indirect discharge in Thol lake. Officials from following concerned government departments, industries and industrial associations were present during meeting.

- Panchayat Irrigation Department, Gandhinagar
- Gujarat Water Supply & Sewerage Board (GWSSB), Kalol
- Drainage (Kans) Department, Gandhinagar
- Drainage Sub Division, Vadnagar
- Mamlatdar and Executive Magistrate (Kalol – City), Kalol
- Sardar Sarovar Narmada Nigam Limited (SSNNL), Kalol
- Sardar Sarovar Narmada Nigam Limited (SSNNL), Gandhinagar
- Gandhinagar Urban Development Authority (GUDA), Gandhinagar
- Notified Area Officer – Kalol GIDC, Kalol
- Chief Officer (Kalol Nagarpalika), Kalol
- Kalol GIDC Industrial Association (CETP), Kalol
- Kalol GIDC Industrial Association, Kalol
- Indian Farmer Fertilizer Cooperative Limited (IFFCO) – Kalol Unit
- Arvind Limited – Santej Unit
- Bharat Vijay Mills, Kalol

Following discussion had taken place during meeting.

Shri N. V. Patel, Deputy Executive Engineer, Drainage Sub Division, Vadnagar submitted following statement during meeting.

- Water is taken into Piyaj pumping station from Narmada Canal. They have provided connection in the ponds through pipeline and provision of intermediate pumping station for supply of water. 200 cusec water (489 MLD) can be supplied through the pipeline. Presently 75% i.e. 150 cusec (366 MLD) in Sujalam Suflam Circle 1
- Water is supplied for drinking and irrigation purpose through separate pipeline network. They have provided joint at the pumping station so as to divert the water for drinking and irrigation purpose as per requirement.
- They are supplying water during winter season only. Water is not required during monsoon season as rain water is available. They are not supplying water during summer as water is not supplied from Narmada Network and during summer borewell water is used for respective utilization.
- There is water demand during summer and treated domestic water can be used for irrigation, if proper infrastructure would be provided for water distribution and to have safety that treated domestic water would not get mixed with drinking water supply network.

Shri R. J. Manaloor, Deputy Executive Engineer, Drainage Sub Division – 2, Gandhinagar informed during meeting that, natural drain is for disposal of surface run-off only during monsoon season.

Shri Subhash Gadhavi, President, Kalol GIDC Industrial Association, Kalol submitted following statement during meeting.

- They have proposed Sewage Treatment Plant in the Kalol GIDC for treatment of generated sewage from Kalol GIDC and it is planned to reuse the treated sewage.
- If sewage generated from Kalol GIDC is taken into Kalol Nagarpalika drainage line for treatment into Sewage Treatment Plant of Kalol

Nagarpalika, they will reuse the treated wastewater from Sewage Treatment Plant of Kalol Nagarpalika as per their requirement.

- In this case, ground water consumption of GIDC Kalol would reduce and they will use ground water for domestic purpose only.

Shri N. N. Bodat, Chief Officer, Kalol Nagarpalika submitted following statement during meeting.

- Approximately 80 m^2 land would be left at existing oxidation pond after establishment of Sewage Treatment Plant of Kalol Nagarpalika. If guard pond is developed in this land approximately 400 MLD treated wastewater can be stored in the guard pond.

Shri S. Mohan, Jt. General Manager (EPC), Indian Farmers Fertilizer Cooperative Limited, Kalol Unit submitted following statement during meeting.

- They cannot use the treated sewage directly as it would have minimum Total Dissolved Solid (TDS) value of 600 PPM and it can affect the functioning of the plant.
- They require water with Total Dissolved Solid (TDS) value around 150 – 170 PPM and total hardness value below 120 PPM.
- They will be required to provide Reverse Osmosis (RO) and Ultra Filtration unit for treatment of treated sewage for further use in the process.
- Installation cost and operation cost of treatment plant to achieve the said parameters would be higher and it is not financially feasible.

Shri Jitendra Chaudhary, Manager, Arvind Limited – Santej Unit submitted following statement during meeting.

- Santej unit of M/s Arvind Limited is Zero Liquid Discharge unit. They required higher quantity of water initially and then water requirement reduces as the treated wastewater is recycled back.
- Plant is designed with 17 MLD water consumption and presently operating with 15 MLD consumption capacity.

- Presently, 2 MLD of fresh water is used from bore well.
- They have done agreement with Jaspur Sewage Treatment Plant for consumption of 4 MLD treated wastewater of Jaspur Sewage Treatment Plant and currently receiving 3 MLD treated wastewater.

Shri Manish Patel, Bharat Vijay Mills, Kalol submitted following statement during meeting.

- Total water consumption would be about 2 MLD and are planning for Zero Liquid Discharge and major treated wastewater would be recycled.

Conclusion and alternate utilization / disposal of treated wastewater from proposed sewage treatment plant (STP) of Kalol Nagarpalika without affecting Thol Lake and surrounded Sanctuary:

1. As per Policy for Reuse of treated water as declared by Government of Gujarat – Para no. - 8.1.1.2 : "It shall be mandatory for all Gujarat Industrial Development Corporation (GIDC) estates, all industrial units in Special Investment Region (SIR), Industrial parks large industrial units which are consuming minimum one lakh litre of fresh water per day for non-potable purpose and which are situated water per distance from STP or city limits to use Treated Waste Water (TWW). However, it shall not be mandatory to use TWW wherever it comes in direct contact with human beings or is used in processes resulting in products for human consumption." Considering this provision, suitable options may be explored. This will help increasing the underground water table.
2. Kalol Nagarpalika shall publish / advertise for Expression of Interest (EoI) for utilization of treated wastewater from their Proposed Sewage Treatment Plant.
3. While draining the remaining treated water into canal of Sujalam Sufalam Circle-1 after distributing the treated water to industrial units and other purposes, it has to be ensured by Kalol Nagarpalika that it does not get mixed in the line of drinking water.

4. Kalol Nagarpalika will also have to ensure the quality standard of treated water through continuous monitoring.
5. Having good informative discussion, it was concluded that treated domestic wastewater from proposed 33.1 MLD STP plant of Kalol Nagarpalika can be reutilised for various purposes as tabulated below. Kalol Nagarpalika shall explore / workout the following options and quantity of wastewater to be supplied to respective options based on feasibility.

Sr. No.	Mode of Utilization	Quantity (MLD)
1.	M/s Indian Farmers Fertilizer Cooperative Limited, Kalol Unit (if treated wastewater quality is feasible for utilization)	11 MLD
2.	GIDC – Kalol (180 industrial units)	2 MLD
3.	M/s Arvind Limited, Santej	3 MLD
4.	M/s Bharat Vijay Mill, Kalol	2 MLD
5.	For irrigation to Sujalam Suflam Circle – 1 through their existing pipeline only during winter season only. Technical modification in existing pipeline shall be done so as to ensure that, treated wastewater do not get mixed with water supplied for drinking purpose. Options shall be explored to satisfy irrigation water requirement by this treated wastewater during remaining period i.e. other than winter season.	As per Requirement
6.	Utilization in the garden area of Kalol Nagarpalika, to meet water demand / requirement of the construction activities and for dust suppression	As per Demand

Minutes of the meeting of Sub-Committee held on 12/05/2022 is attached as Annexure-11. Photograph of Sub-Committee meeting is enclosed as Annexure – 12.

CHAPTER - 4

4.1 Recommendations of the Joint Committee

The Joint Committee, based on the site visit, consultation with stakeholders, deliberations on facts and records available and submissions of the sub-committee has arrived on following conclusions and alternate utilization / disposal of treated wastewater from proposed sewage treatment plant (STP) of Kalol Nagarpalika without affecting Thol Lake and surrounded Sanctuary:

1. Treated wastewater of proposed Sewage Treatment Plant of Kalol Nagarpalika should not be allowed to be discharged directly or indirectly into Thol Lake and its eco sensitive zone in any case.
2. Kalol Nagarpalika shall publish / advertise for Expression of Interest (EoI) for utilization of treated wastewater from their Proposed Sewage Treatment Plant.
3. The options of providing dedicated irrigation canals bypassing Thol Lake and without affecting whole bird sanctuary, Eco-sensitive Zone of Thol Lake and reuse of treated sewage in the nearby industries should be explored. The options explored by the Sub-Committee for utilization of treated sewage may be referred by Kalol Nagarpalika.
4. Guard Pond cum Distribution Pond with OCEMS and regular manual monitoring should be provided for treated sewage from proposed STP and treated sewage may be utilized based on requirements for irrigation and industrial purposes. It is to mention that, the treated wastewater should be fully compliant with the criteria parameters required for use in irrigation and also effectively disinfected to ensure no adverse impact on food chain through crop production and adverse impact on health of farm laborer / farmers.
5. As per Policy for reuse of treated water declared by Government of Gujarat – Para no: 8.1.1.2: “It shall be mandatory for all Gujarat Industrial Development Corporation (GIDC) estates, all industrial units in Special Investment Region (SIR), Industrial parks large industrial units which are consuming minimum one lakh litre of fresh water per day for non-potable purpose and which are situated water per distance from STP or city limits

to use TWW. However, it shall not be mandatory to use TWW wherever it comes in direct contact with human beings or is used in processes resulting in products for human consumption." Considering this provision, suitable options may be explored. This will help increasing the underground water table.

6. Kalol Nagarpalika will ensure compliance of treated sewage quality standards through continuous monitoring.
7. Following options are identified to supply treated wastewater from proposed Sewage Treatment Plant. Kalol Nagarpalika shall explore / workout the following options and quantity of wastewater to be supplied to respective options based on feasibility.

Sr. No.	Mode of Utilization	Quantity (MLD)
1.	M/s Indian Farmers Fertilizer Cooperative Limited, Kalol Unit (if treated wastewater quality is feasible for utilization)	11 MLD
2.	GIDC – Kalol (180 industrial units)	2 MLD
3.	M/s Arvind Limited, Santej	3 MLD
4.	M/s Bharat Vijay Mill, Kalol	2 MLD
5.	For irrigation to Sujalam Suflam Circle – 1 through their existing pipeline only during winter season only.Technical modification in existing pipeline shall be done so as to ensure that, treated wastewater do not get mixed with water supplied for drinking purpose. Options shall be explored to satisfy irrigation water requirement by this treated wastewater during remaining period i.e. other than winter season.	As per Requirement
6.	Utilization in the garden area of Kalol Nagarpalika, to meet water demand / requirement of the construction activities and for dust suppression	As per Demand

8. GPCB should keep above recommendations in view while considering the application of Consent to Establish / Operate for the Kalol STP.

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Annexure – 1

News reporting in the Indian Express on 19/03/2022

STP given nod to discharge treated sewage into Thol

SOHINI GHOSH & GOPAL KATESHIYA
KALOL (GANDHINAGAR), RAJKOT, MARCH 19

A PROPOSED sewage treatment plant to be set up in Kalol town of Gandhingar district has got clearance to discharge treated wastewater into Thol lake, a legally protected wetland which was declared a Ramsar site of International importance last

Inlet for untreated domestic sewage water of Kalol. An STP is expected to be constructed here. *Sohini Ghosh*

ethanks to the number of species of migratory and local birds this shallow freshwater lake located 40 km west of Ahmedabad city supports by virtue of being on the Central Asian Flyway.

The clerance by the state forest department to the propsoal of discharging treated sewage water into Thol was granted in September last year, just five months after the lake was designated by Ramsar Convention as a wetland of international importance, in April last year.

Gujarat Urban Development Company Limited (GUDC), a state government undertaking for executing urban infrastructure projects, had floated tenders for this STP having capacity to treat 33.10 million litres per day (MLD). Five firms have submitted tenders as of March 9 when the tender was closed for the project, and the project is estimated to cost Rs 46.64 crore.

CONTINUED ON PAGE 4

Annexure – 2

Hon’ble National Green Tribunal order dated 29/03/2022

Item No. 01 (Court No. 1)

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

(By Video Conferencing)

Original Application No. 228/2022

In re: News item published in The Indian Express dated 19.03.2022 titled **"STP given nod to discharge treated sewage into Thol"**

Date of hearing: 29.03.2022

CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER
HON'BLE MR. JUSTICE ARUN KUMAR TYAGI, JUDICIAL MEMBER
HON'BLE PROF. A. SENTHIL VEL, EXPERT MEMBER
HON'BLE DR. AFROZ AHMAD, EXPERT MEMBER

ORDER

1. Proceedings in this matter have been initiated on the basis of captioned media report[1] to the effect that the STP proposed to be set up in Kalol town of Gandhinagar District in Gujarat has been permitted to discharge treated waste water into a lake which is a protected wetland and also declared a Ramsar site of international importance. The lake is fresh water lake and if waste water is discharged therein, the eco-system of lake will suffer.

2. We are satisfied that the media report needs to be cross-checked and remedial action taken by a joint Committee comprising the CPCB, State PCB, the State Wetland Authority and the District Magistrates, Gandhinagar and Mehsana. Nodal agency will be the State PCB for coordination and compliance. The Committee may undertake visit to the site, ascertain facts, interact with the concerned stakeholders and furnish

[1] Report published in the Indian Express dated 19.03.2022 under the title "STP given nod to discharge treated sewage into Thol"

a factual and action taken report in the matter within two months by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF. In particular, it may be specified whether treated sewage can be utilized for secondary purposes instead of being discharged into the wetland.

List for further consideration on 08.07.2022.

A copy of this order be forwarded to CPCB, State PCB, State Wetland Authority and the District Magistrates, Gandhinagar and Mehsana by email for compliance.

Adarsh Kumar Goel, CP

Sudhir Agarwal, JM

Arun Kumar Tyagi, JM

Prof. A. Senthil Vel, EM

Dr. Afroz Ahmad, EM

March 29, 2022
Original Application No. 228/2022
AB

Annexure – 3

Direction issued by Gujarat Pollution Control Board to Kalol Nagarpalika under Section: 33-A of the Water (Prevention and Control of Pollution) Act – 1974

GPCB

GUJARAT POLLUTION CONTROL BOARD

PARYAVARAN BHAVAN
Sector-10-A, **Gandhinagar**-382 010
Phone : (079) 23226295
Fax : (079) 23232156
Website : www.gpcb.gov.in

BY R.P.A.D

DIRECTION UNDER SECTION 33-A OF THE WATER (PREVENTION AND CONTROL OF POLLUTION) ACT-1974. (HERE IN AFTER REFERRED TO AS THE 'WATER ACT') AS AMENDED FROM TIME TO TIME.

WHEREAS you, Kalol Nagarpalika is responsible for the collection, conveyance, treatment & ultimate safe disposal of domestic wastewater (sewage) generated from your Municipality Area. It is recorded that you have provided Oxidation ponds as a conventional treatment scheme for the treatment cum disposal of sewage.

AND WHEREAS in the order dated. 28/08/2019, Hon'ble National Green Tribunal in the matter of Original Application no: 593/2017 Paryavaran Suraksha Samiti & Anr. v/s. Union of India directed that:- "All the local bodies have to ensure 100% treatment of the generated sewage."

AND WHEREAS Hon'ble National Green Tribunal in the matter of Original Application no: 829/2019 Lt. Col. Sarvadaman Singh Oberoi v/s. Union of India regarding an action plan to restore sea water quality along the Indian Coastal areas, it is directed stated that "No untreated sewage /industrial effluent is discharged into any water bodies including coastal waters."

AND WHEREAS reference to the directions issued by the Central Pollution Control Board, New Delhi to SPCBs on 21/04/2015, the Board has issued directions on 05/08/2015 that:

1) To operate the oxidation pond efficiently, which are being operated before issuance of the direction. They shall meet the standards within six months from the date of issuance of these directions.
2) To obtain consent under Water (Prevention and Control of Pollution) Act, 1974.
3) To submit a time bound action plan for setting up sewerage system covering proper collection, treatment and disposal of sewage generated in the local/urban area and such plan shall be submitted by the Nagar Sevasadan to the State Board.
4) To comply suggested discharge standards annexed with the direction, in case of disposal of effluents on land or rivers or any water body including coastal water/creek or a drain.
5) To design the new Sewage Treatment Plants which will come in existence after the issuance of these directions as they shall be designed to treat and achieve standards as per the suggested standards as annexed.

AND WHEARAS, the Hon'ble NGT in the O.A. no. 1069/2018 vide order dated 30.04.2019 accepted the standards recommended by expert committee (constituted by Hon'ble NGT) with the modification that the standard recommended for Mega and Metropolitan Cities will also apply to the rest of the country, not only for new STPs but also for existing/under construction STPs without any delay. Therefore following standards are required to achieve before releasing sewage into the environment.

Parameters	Standards (applicable to all mode of discharge)
pH	5.5-9.0
Biochemical Oxygen demand (BOD)	10 mg/L
Total suspended solids (TSS)	20 mg/L
Chemical Oxygen Demand (COD)	50 mg/L
Nitrogen Total	10 mg/L
Phosphorus Total (For Discharge into Ponds, Lakes)	1 mg/L
Fecal Coliform (FC) (MPN/100 ml)	Desirable: 100 MPN/100 ml & Permissible: 230 MPN/100 ml
Reuse/ recycling of treated effluent shall be encouraged.	

AND WHEREAS reference to complaints regarding discharge of sewage leading to Gatehara Bird Field, the Board has issued notice on 11/04/2018 directing to repair earth bunds at oxidation ponds to stop discharge of sewage to Bird field. This issue is also monitored in the District Coordination meeting in the month of September, 2021.

AND WHEREAS Board has issued various Notices on 27/09/2021, 06/01/2020, 03/01/2018, 29/10/2018, 22/09/2018, 16/04/2018 including Legal Notice on 10/06/2019 directing you for installation of STP, apply for CTE and to ensure adequate treatment of sewage.

AND WHEREAS, officers of regional office, Gandhinagar GPCB has carried out site inspections latest on **10/03/2022 & 22/03/2022** and found that oxidation ponds of Kalol Nagarpalika was overflowed resulting discharge of sewage into kachcha channel near Laxmipura, Palsana Road, Kalol and foul odour was felt nearby the area where this waste water was flowing. Presence of H_2S and Ammonia gas was found in the ambient air in range from 0.0 ppm to 2.3 ppm and 0.0 ppm to 2.5 ppm respectively. It concluded that if wind direction is toward the residential area of Panchavati, Kalol from the oxidation pond, foul odor may spread in the area.

ORDER

UNDER THE CIRCUMSTANCES, I Dipali Tank, Environmental Engineer, Gujarat Pollution Control Board is directed to issue the directions under Section –33A of the Water (Prevention And Control of Pollution) Act-1974 as under:-

1) In no case released sewage shall be reached to Thol Sanctuary and/ or wetland and/or Gatehar Bird Santuary.

GPCB

GUJARAT POLLUTION CONTROL BOARD
PARYAVARAN BHAVAN
Sector-10-A, **Gandhinagar**-382 010
Phone : (079) 23226295
Fax : (079) 23232156
Website : www.gpcb.gov.in

2) To ensure that sewage from oxidation ponds shall meet with discharge norms mentioned in the above mentioned Hon. NGT order.
3) To take measures that sewage without meeting with norms shall not be overflowed from oxidation ponds. Proper re-designing or capacity expansion shall be carried out.
4) Possibility of frequent cleaning of oxidation ponds, desilting of accumulated sludge and proper mixing/aeration of sewage at oxidation ponds shall be explored.
5) To ensure that treated sewage shall not carry with odorous gases at the downstream. Proper mixing/aeration shall be carried out at oxidation ponds.
6) If required, deodorant materials shall be spread at sewage conveyance line near to residential area as short term measures to avoid odour nuisance.
7) Thick vegetation cover shall be done at downstream side of oxidation ponds considering prominent wind directions especially in winter season.
8) To expedite execution of Sewage Treatment Plant for domestic effluent generated from Nagarpakila.
9) You shall not allow the discharge of sewage directly into water channel or stream or water shed or wetland in violation of the law even during monsoon season and you shall ensure that the standards duly maintained.
10) You shall explore the more possibilities for reuse/ recycling of treated sewage at maximum extent for non potable purposes such as industrial process in nearby industrial clusters, community cleaning process at bus/ railway depot etc. in addition to horticulture/ irrigation.

This Direction has been issued after approval from the competent authority of the Board.

For and on behalf of
Gujarat Pollution Control Board

Dipali Tank
21/4/2022
(Dipali Tank)
Environment Engineer

NO.GPCB/GNR-C-31/ID-25412/ /Date: /04/2022

Issued to:
The Chief Officer,
Kalol Nagarpalika,
Kalol Nagar Seva sadan,
Near Civil Hospital,
Tal : Kalol, Dist : Gandhinagar.

Copy to:

1. The District Collector, District Collector Office Gandhinagar, GH Road, Sector - 11, Near Pathika Ashram, Tal: - & Dist:-Gandhinagar ……..For your kind information & kind request to direct concerned authority for the compliance.

2. The Regional Office, Gujarat Pollution Control Board, Gandhinagar ……To co-ordinate with concerned authorities for above.

Annexure – 4

Letter of Principal Chief Conservator of Forest, Wild life to Gujarat Urban Development Company Limited regarding approval of disposal of treated wastewater from Sewage Treatment Plant of Kalol into Thol Lake through Saij – Hajipur Natural Drain and its English translated Version

કમાંકઃ વપસ/ટે.૨૮/૬/૨૨૩-૨૨૫/૨૦૨૧-૨૨
અગ્ર મુખ્ય વન સંરક્ષકશ્રીની કચેરી,
વન્યજીવ શાખા, અરણ્યભવન,
બી-બ્લોક, પ્રથમ માળે, સેક્ટર – ૧૦/એ,
ગુજરાત રાજ્ય, ગાંધીનગર
તા. ૮.૦૯.૨૦૨૧

પ્રતિ,
વાઇસ પ્રેસીડન્ટશ્રી (પ્રોજેક્ટ)
ગુજરાત અર્બન ડેવલપમેન્ટ કંપની લી.
ગાંધીનગર.

વિષયઃ કલોલ ખાતેના એસ.ટી.પી. દ્વારા શુધ્ધ કરેલ પાણીનો નિકાલ સઇજ-હાજીપુર કાંસ મારફતે થોળ તળાવમાં નિકાલ કરવા બાબત.

સંદર્ભઃ ૧. આપના પત્રાંકઃ જીયુડીસી/પ્રોજેક્ટ/કલોલ/૨૦૨૧/૫૬૨, તા. ૧૬/૦૨/૨૦૨૧

૨. વન સંરક્ષકશ્રી, વન્યજીવ વર્તુળ, ગાંધીનગરના પત્ર કમાંકઃ વપસ/બ/૬/૧૭૯૦, તા. ૩૧/૦૩/૨૦૨૧

૩. પર્યાવરણ, વન અને જળવાયુ પરિવર્તન મંત્રાલયના જાહેરનામા તા. ૧૩.૧૦.૨૦૧૭ થી પ્રસિધ્ધ કરેલ એનવાયરમેન્ટ (પ્રોટેક્શન)એમેન્ડમેન્ટ રૂલ્સ – ૨૦૧૭

૪. નામ.નેશનલ ગ્રીન ટ્રીબ્યુનલ નવી દિલ્હીએ નીતિન શંકર દેશપાંડે V/S યુનિયન ઓફ ઇન્ડિયા એન્ડ અધરના કેસમાં ઓરીજીનલ એપ્લીકેશન નંબર ૧૦૬૯/૨૦૧૮માં તા.30.04.૨૦૧૯ના હુકમમાં આપેલ નિર્દેશ.

3972
01/9/21

ગુજરાત અર્બન ડેવલપમેન્ટ કંપની લી. ગાંધીનગર દ્વારા કલોલ નગરપાલિકા શહેરની ભૂગર્ભ ગટરના સુએઝ ટ્રીટમેન્ટ પ્લાન્ટનું ગંદુ પાણી શુધ્ધ કરીને સઇજ-હાજીપુર કાસમાં થઇને આ પાણી થોળ તળાવમાં છોડવા માટે મંજૂરી આપવાની દરખાસ્ત સંદર્ભપત્ર -૧ થી અત્રે મળેલ છે.

સંદર્ભ – ૨ ની વિગતો ધ્યાને લેતાં થોળ તળાવને વન્યપ્રાણી સંરક્ષણ અધિનિયમ – ૧૯૭૨ હેઠળ અભયારણ્ય તરીકે જાહેર કરેલ છે. થોળ તળાવના પાણીનો મુખ્ય સ્ત્રોત વરસાદ અને સિંચાઇ વિભાગ દ્વારા ઠાલવવામાં આવતુ નર્મદાનું પાણી છે. થોળ તળાવના પાણીનો ઉપયોગ સિંચાઇ, ઢોર ઢાંખરના પીવાના પાણી તેમજ સ્થાનિક તથા દેશ વિદેશના યાયાવર પક્ષીઓ રહેઠાંણ તેમજ ખોરાક મેળવવાના સ્ત્રોત તરીકે થાય છે. સંદર્ભ – 3 તથા ૪ થી નિયત કરવામાં આવેલ માપદંડો મુજબ નીચેની શરતોને આધિન કલોલ ખાતેના એસ.ટી.પી. દ્વારા શુધ્ધ કરેલ પાણીનો નિકાલ સઇજ-હાજીપુર કાંસ મારફતે થોળ તળાવમાં નિકાલ કરવા મંજૂરી આપવામાં આવે છે.

શરતો

૧. પર્યાવરણ, વન અને જળવાયુ પરિવર્તન મંત્રાલયના જાહેરનામા તા. ૧૩.૧૦.૨૦૧૭ થી પ્રસિધ્ધ કરેલ એનવાયરમેન્ટ (પ્રોટેક્શન)એમેન્ડમેન્ટ રુલ્સ – ૨૦૧૭ તથા નામ.નેશનલ ગ્રીન ટ્રીબ્યુનલ નવી દિલ્હીએ નીતિન શંકર દેશપાંડે V/S યુનિયન ઓફ ઇન્ડિયા એન્ડ અધરના કેસમાં ઓરીજીનલ એપ્લીકેશન નંબર ૧૦૬૯/૨૦૧૮માં તા.30.૦૪.૨૦૧૯ના હુકમમાં આપેલ નિર્દેશ અને નિયત થયેલ માપદંડ પ્રમાણે એસ.ટી.પી. દ્વારા શુધ્ધ કરેલ પાણી થોળ તળાવમાં છોડવાનું રહેશે.

૨. પાણી છોડવાની પ્રક્રિયા દરમિયાન થોળ અભયારણ્યના પક્ષીઓની દિનચર્યામાં કોઇ વિક્ષેપ ન થાય તેની કાળજી લેવાની રહેશે.

૩. માપદંડ પ્રમાણે શુધ્ધ કરેલ પાણીનું વખતોવખત કરવવામાં આવનાર પરિક્ષણ અંગેની વિગતો નાયબ વન સંરક્ષકશ્રી, નળસરોવર પક્ષી અભયારણ્ય સાણંદને મોકલી આપવાનો રહેશે.

૪. થોળ પક્ષી અભયારણ્ય વિસ્તારમાં શુધ્ધ પાણી છોડવા માટે કોઇપણ પ્રકારની પાઇપલાઇન કે બાંધકામ કરવાની જરૂરિયાત ઉપસ્થિત થાય તો તે કરતાં પહેલાં વન્યપ્રાણી સંરક્ષણ અધિનિયમ – ૧૯૭૨ હેઠળ પૂર્વ મંજૂરી મેળવવાની રહેશે.

(શ્યામલ ટીકાદર)
અગ્ર મુખ્ય વન સંરક્ષક
વન્યજીવ અને
ચીફ વાઇલ્ડલાઇફ વોર્ડન
ગુજરાત રાજય, ગાંધીનગર

નકલ રવાનાઃ વન સંરક્ષકશ્રી, વન્યજીવ વર્તુળ, ગાંધીનગર તરફ જાણ તથા જરૂરી કાર્યવાહી સારૂ.

નકલ સવિનય રવાનાઃ કલેક્ટરશ્રી, ગાંધીનગર તરફ જાણ સારૂ.

નકલ રવાનાઃ નાયબ વન સંરક્ષકશ્રી, નળસરોવર પક્ષી અભયારણ્ય તરફ જાણ તથા જરૂરી કાર્યવાહી સારૂ.

[English translated Version]

No: VPS/Te.28/K/243-246/2021-22
Office of Principal Chief Conservator of Forest
Wildlife Branch, Aranyabhavan,
B-Block, First Floor, Sector-10/A,
Gujarat State, Gandhinagar
Date: 04/09/2021

To,
Vice President (Project)
Gujarat Urban Development Company Limited
Gandhinagar

Subject: Disposal of treated water from S.T.P. at Kalol to Thol Lake through Saij – Hajipur Natural Drain regarding.

Reference: 1. Your letter no: GUDC/Project/Kalol/2021/562, Date: 16/02/2021.
2. Conservator of Forest, Wildlife Circle, Gandhinagar letter no: VPS/B/6/1790, Date: 31/03/2021.
3. Environment (Protection) Amendment Rules – 2017 published by Ministry of Environment, Forest and Climate Change vide notification dated 13/10/2017.
4. Direction issued by Hon'ble National Green Tribunal, New Delhi in order dated 30/04/2019 in Original Application no: 1069/2018 of Nitin Shankar Deshpande v/s Union of India & Others.

We have received proposal from Gujarat Urban Development Company Limited, Gandhinagar vide referred letter no: 1 to grant permission for discharge of water from Kalol Nagarpalika city underground drainage to Thol lake through Saij – Hajipur natural drain after treatment in Sewage Treatment Plant.

Considering details of Reference no: 2, Thol lake is declared as sanctuary under Wildlife Protection Act – 1972. Main source of water at Thol lake is through rain and Narmada water supplied by the irrigation department. Water of Thol lake is utilized for irrigation, for drinking of cattle as well as for resident and food source of local and migrant birds. As per criteria fixed in reference no: 3 and 4, it is hereby permitted to discharge treated water of Kalol STP to Thol lake through Saij – Hajipur natural drain based on following conditions.

[English translated Version]

Conditions

1. Treated water from STP shall be discharged into Thol lake as per Environment (Protection) Amendment Rules – 2017 published by Ministry of Environment, Forest and Climate Change vide notification dated 13/10/2017 and direction & criteria fixed by Hon'ble National Green Tribunal, New Delhi in order dated 30/04/2019 in Original Application no: 1069/2018 of Nitin Shankar Deshpande v/s Union of India & Others.
2. It shall be taken care that, there is no disruption in daily routine of birds at Thol lake while water discharge activity.
3. Details of periodical analysis of treated water as per criteria shall be sent to Deputy Conservator of Forest, Nal Sarovar Bird Sanctuary Sanand.
4. Prior permission shall be obtained under Wildlife Protection Act – 1972 if any requirement arises to lay pipeline and construction activity for discharge of treated water into Thol Bird Sanctuary area.

-sd-
(Shyamal Tikadar)
Principal Chief Conservator of Forest
Wildlife and
Chief Wildlife Warden
Gujarat State, Gandhinagar

Copy to: Conservator of Forest, Wildlife Circle, Gandhinagar for information and necessary action.
Copy to: Collector, Gandhinagar for information.
Copy to: Deputy Conservator of Forest, Nal Sarovar Bird Sanctuary for information and necessary action.

Annexure-5

Photographs of Thol Lake


Thol Lake sample 2
29.04.2022 11:55
23.14359, 72.39307
Unnamed Road, Bhimasan, Gujarat

Annexure –6

List of Participants / Attendance Sheet of meeting held on 28/04/2022 at Thol Lake

GUJARAT POLLUTION CONTROL BOARD
REGIONAL OFFICE – GANDHINAGAR

Attendance Sheet

Date: 28/04/2022 at 16:30 Hrs. **Venue:** Thol Lake, Tal: Kadi, Dist: Mehsana

Subject: Hon'ble NGT order dated 29/03/2022 in O.A. No. 228/2022 regarding News item published in The Indian Express dated 19/03/2022 titled "STP given nod to discharge treated sewage into Thol"

Sr. No.	Name	Organization	Email	Mobile Number	Signature
1.	J. J. Pandit Asst. Survey F&ED	MS State wetland authority		99784 41507	
2.	A. V. Shah	MS GPCB		9879981543	
3.	GPCB K-A Vaghela. SDM (Col rangler) Kalol	Collector office, Gandhinagar.		9727260336	
4.	P. C. Dave SDM-KADI	D.M. mehsana		7567008421	
5.	Dr. N. Semwal	CPCB, RD Vadodara		9722027220	
6.	D.C. Vankani	GPCB, RO-Gandhinagar		7574827584	
7.	P. PURUSHOTHAMA	GFD, Gujarat, NSBS SANAND		7574955506	
8.	D. A. Tank	EE, GPCB		9824640-431	
9.	J. D. Pariyadahi	RO GPCB Mehsana		94282 17050	
10.	M. V. Patel	HO GPCB		98251 60111	
11.	N. S. Patel	Irrigation Deptt		99095 44251	
12.					

Sr. No.	Name	Organization	Email	Mobile Number	Signature
13.	NISHAL CHANDA		Nishal.chanda@gmail.com	8140804339	
14.	Kandarp Kathju		Prakriti.sarma@gmail.com	9825096845	
15.	Ashwin Desai			[illegible]	
16.	Patel VIJAY.A		Patel.vijay551@gmail.com	9825874551	
17.	Patel Ketan K.	Local (Thol)	design_76@hotmail.com	9924555166	
18.	patel vipul A	Local (thol)	vipulcom456@gmail.com	9227405022	
19.	Labhshi K. Patel	S.I Kalol Muni	6359876233		
20.	Patel Chirag A.	Muni. eng. Kalol NP.	np_kalol@yahoo.co.in 6359876276		
21.	R. B. Prajapati	Drainage Sub Div No 2, Gandhinagar	–	9904726860	
22.	R.J. Manaloor	Drainage Sub Dn No 2, Gandhinagar	–	9879506446	
23.	S. K. Patel	RFO, Kadi WD, Sanand WD division	–	9825641005	
24.	N.N. Bodat	CO. Kalol	SIP_Kalol@[illegible] 6359876403		
25.	Uday Vora	Bindu & Retd CCF, Ex. Expert member of National water commission	udayvora1957@gmail.com	9825406162 9427306162	
26.	Chandubhai Hira	CUDP, Cand	hirenchoudhari1981@gmail.com	7778883322	
27.	Govindbhai Patel	GUDC Gandhinagar	govindbhai010667@yahoo.in	9714955441	
28.					

Annexure – 7

Photographs of the meeting of Joint Committee with stake holders held on 28/04/2022 at Thol Lake

Meeting of the Joint Committee with Stake Holder

Stake Holder present during meeting on 28/04/2022 at Thol Lake

Stake Holder representing their views, objections and suggestions

Shri N. N. Bodat (Chief Officer – Kalol Nagarpalika) representing details of proposed Sewage Treatment Plant of Kalol Nagarpalika

Annexure – 8

Photographs showing dried areas before reaching the Thol Lake

Photographs showing the Eastern Weir at 23.15049, 72.42342 (Natural drain leading to Thol Lake) found in dry condition

Photographs showing the Eastern Drain Bypass channel at 23.15024, 72.42561 (Natural drain leading to Thol Lake) found in dry condition

Annexure – 9

Analysis Results of Samples collected at Thol Lake and images of the sampling locations

Photograph showing location of Sample – 1 collected at Thol Lake

ANALYSIS REPORT FOR
WATER / WASTE WATER SAMPLE

Sample ID:349268 - Analysis Completion:11/05/2022

Common treatment and disposal facilities(CETP, TSDF, Ewaste recycling, CBMWTF, effluent conveyance project, incinerator, solvent/acid recovery plant, MSW sanitary landfill site) / LAB Inward : 88373

Gujarat Pollution Control Board
Central Laboratory
Paryavaran Bhavan
Sector-10A
Gandhinagar-382010
Tele:23222756

TC-9667

Accreditation Standards & NABL Certificate Details : TC-9667 / -- / Issue: 12/07/2021 / Validity: 11/07/2023

TEST REPORT

Test Report No. : 88373 **Date: 11/05/2022**

1. Name of the Customer	**: Kalol Nagarpalica(Cc & A) - 25412**
2. Address	**: -,-,-**
	KALOL-382721, Taluka : Kalol, District : Gandhinagar., GIDC : Not In
3. Nature of Sample	**: REP-Representative/Grab, (Insp Type : OTH-Others/Higher Authority)**
4. Sample Collected By	**: A.D.Khandhediya,S.O.**
5. Quantity of Sample Received	**: 5 lit+Bact+DO**
6. Code No. of the Sample	**: 349268**
7. Date & Time of Collection & Inwarding	**: 28/04/2022 , (1830 to 1835) & 30/04/2022**
8. Date of Start & Completion of Analysis	**: 30/04/2022 & 11/05/2022**
9. Sampling Point	**: FROM THE THOL LAKE AT 23.1338, 72.40062 NR RFO OFFICE ~**
10. Flow Details (Remarks)	**: --**
11. Mode of Disposal	**: -**
12. Ultimate Receiving Body	**: No generation of industrial wastewater**
13. Temperature on Collection	**: 30 & pH Range on pH Strip :@8**
14. Carboys Nos for	**: barcode & Color & Appearance :turbid gray**
15. Water Consumption & W.W.G (KLPD)	**: Ind :1172.000 , Dom :1172.000 & Ind :0.000 , Dom :1150.000**
16. Parameter	**: 35 ,Cap No & Weight :**

Sr	Parameter	Unit	Test Method	Range of Testing	Result
1	Temperature	Centigrade	IS: 3025 (Part – 9) – 1984(Reaffirmed 2006)	Ambient oC - 60 oC	30
2	pH	pH Units	4500 H+ B APHA Standard Methods 23rd edi.2012	1 – 14 pH value As or	8.44
3	Colour	Pt.Co.Sc.	2120 B APHA Standard Methods 22nd edi. 2012	2 - to 99 Hazen & 1-50	120
4	Conductivity	micro.s/cm	2510 B APHA Standard Methods 22nd edi.-2012	1.0 µS/cm – 100 mS/c	3139
5	Total Dissolved Solids	mg/l	Gravimetric method. (2540 C APHA Standard Method	10 – 200000 mg/L	1732
6	Suspended Solids	mg/l	Gravimetric method. (2540 D APHA Standard Method	2 – 10000 mg/L	88
7	Ammonical Nitrogen	mg/l	1).Titrimetric method (4500 NH3 B & C APHA Standa	1 - 2000 mg/l.	13.44
8	Nitrite	mg/l	Spectrophotometric method. (4500-NO2 B APHA Sta	0.005 – 50 mg/l	0.05
9	Nitrate	mg/l	Cadmium reduction method As per Spectrophotometr	0.005 – 100 mg/l	0.68
10	Alkalinity as Caco3	mg/l	Titration method. (2320 B APHA Standard Methods 2	1 – 5000 mg/l	580
11	Chloride	mg/l	Argentometric method. (4500 Cl? B APHA Standard M	1 - 50000 mg/l	612
12	Sulphate	mg/l	APHA(23rd edi) 4500 SO4 E	2-40mg/l	312
13	Phosphate	mg/l	(4500-P D APHA Standard method 22nd edi)	0-50mg/l	0.512
14	Total coliform	MPN/100 ml	Multiple Tube Fermentation method.1. 9221 B APHA	<1.8 to > 1600 MPN/10	280
15	Fecal Coliform	MPN/100 ml	2.9221 E APHA 23rd Edition IS 1622-1981	<1.8 to >1600 MPN/10	70
16	Dissolved Oxygen	mg/l	Winkler method – Azide modification. (4500-O– C API	0.1 – 8 mg/l	4.22
17	Chemical Oxygen Demand	mg/l	APHA (23rd Edition)- 5220 B Open Reflux Method-2(	5.0- 50000 mg/l	172
18	Oil & Grease	mg/l	Liquid – Liquid Partition Gravimetric method. (5520 B	01 – 1000 mg/l	BDL
19	Phenolic Compounds	mg/l	4 Amino Antipyrene method without Chloroform Extra	0.1 – 50 mg/l	BDL
20	Fluoride	mg/l	SPADNS method (4500-F-D APHA standard Methods	0.10-40 mg/l	0.822
21	Sulphide	mg/l	APHA (23rd Edi.)4500-s2-F –iodometric Method	1-500.0 mg/l	1.6
22	Boron	mg/l	Colorimetric Curcumin method. (4500-B B. APHA Sta	0.1 – 10.0 mg/l	BDL
23	Iron	mg/l	(3111 B APHA Standard methods 21st edi)	0.02-150mg/l	BDL
24	Zinc	mg/l	(3111 B APHA Standard methods 21st edi)	0.005-100mg/l	BDL
25	Total Chromium	mg/l	3111 B APHA Standard methods 21st edi)	0.02-150mg/l	BDL
26	Hexavalent Chromium	mg/l	APHA (22nd Edition) –3500 – Cr B : -2012 Colorimet	0.1 – 100 mg/l	BDL
27	Copper	mg/l	3111 B APHA Standard methods 21st edi)	0.01-150 mg/l	BDL
28	Nickel	mg/l	(3111 B APHA Standard methods 21st edi)	0.02-150 mg/l	BDL
29	Lead	mg/l	(3111 B APHA Standard methods 21st edi)	0.05-150 mg/l	NA

30	Cadmium	mg/l	(3111 B APHA Standard methods 21st edi)	0.002-100 mg/l	BDL
31	B.O.D (3 Days 27oC)	mg/l	3 – Day BOD test. (IS 3025 (Part 44) 1993 Reaffirme	05–50000 mg/l	22
32	Arsenic	mg/l	(3111 B APHA Standard methods 21st edi)	-	BDL
33	Sodium Absorption Ratio(SAR)	SAR	IS11624-1986(Reaffirmed 2009)	1 – 50 v Meq/L	10
34	MERCURY	mg/l	(3111 B APHA Standard methods 21st edi)		BDL

Laboratory Remarks : Approved. By:682-aee_682 Dt.: 11/05/2022

Dr. S. N. Agravat

Note :

1. The results refer only to the tested samples and applicable parameters. Endorsement of products is neither inferred nor implied.
2. Samples will be destroyed after 10 days from the date of issue of test report unless otherwise specified.
3. This report is not to be reproduced wholly or in part or used in any advertising media without the permission of the Board in writing.
4. The Board is not responsible for the authenticity for the samples not collected by the Board's officials.
5. Total liability of our laboratory is limited to the invoiced amount. Any dispute arising out of this report is subject to Gujarat Jurisdiction only.
6. Permissible Limits: as per Schedule VI of EPA Rules, 1986 as ammended by Second and Third ammendment 1993 for Effluents
7. Physicochemical and microbiological parameters, Std.Methods for Water and Waste Water- 23nd Edition by APHA.
8. Bioassay test (for toxicity) -IS:6582:Part-2:2001; Reaffirmed 2007.

ANALYSIS REPORT FOR
WATER / WASTE WATER SAMPLE

Gujarat Pollution Control Board
Central Laboratory
Paryavaran Bhavan
Sector-10A
Gandhinagar-382010
Tele:23222756

Sample ID:349268 - Analysis Completion:11/05/2022

Common treatment and disposal facilities(CETP, TSDF, Ewaste recycling, CBMWTF, effluent conveyance project, incinerator, solvent/acid recovery plant, MSW sanitary landfill site) / LAB Inward : 88373

TEST REPORT

Test Report No. : 88373 **Date: 11/05/2022**

1. Name of the Customer	: Kalol Nagarpalica(Cc & A) - 25412
2. Address	: -,-,- KALOL-382721, Taluka : Kalol, District : Gandhinagar., GIDC : Not In
3. Nature of Sample	: REP-Representative/Grab, (Insp Type : OTH-Others/Higher Authority)
4. Sample Collected By	: A.D.Khandhediya,S.O.
5. Quantity of Sample Received	: 5 lit+Bact+DO
6. Code No. of the Sample	: 349268
7. Date & Time of Collection & Inwarding	: 28/04/2022 , (1830 to 1835) & 30/04/2022
8. Date of Start & Completion of Analysis	: 30/04/2022 & 11/05/2022
9. Sampling Point	: FROM THE THOL LAKE AT 23.1338, 72.40062 NR RFO OFFICE ~
10. Flow Details (Remarks)	: --
11. Mode of Disposal	: -
12. Ultimate Receiving Body	: No generation of industrial wastewater
13. Temperature on Collection	: 30 & pH Range on pH Strip :@8
14. Carboys Nos for	: barcode & Color & Appearance :turbid gray
	: Ind :1172.000 , Dom :1172.000 & Ind :0.000 , Dom :1150.000
15. Water Consumption & W.W.G (KLPD)	: 35 ,Cap No & Weight :

Sr	Parameter	Unit	Test Method	Range of Testing	Result
1	Free Ammonia	mg/l	-	-	1.82

Laboratory Remarks : Approved. By:682-aee_682 Dt.: 11/05/2022

Dr. S. N. Agravat

Note :
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6. Permissible Limits: as per Schedule VI of EPA Rules, 1986 as ammended by Second and Third ammendment 1993 for Effluents
7. Physicochemical and microbiological parameters, Std.Methods for Water and Waste Water- 23nd Edition by APHA.
8. Bioassay test (for toxicity) -IS:6582:Part-2:2001; Reaffirmed 2007.

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Photograph showing location of Sample – 2 collected at Thol Lake

ANALYSIS REPORT FOR
WATER / WASTE WATER SAMPLE

Sample ID:349269 - Analysis Completion:11/05/2022

Common treatment and disposal facilities(CETP, TSDF, Ewaste recycling, CBMWTF, effluent conveyance project, incinerator, solvent/acid recovery plant, MSW sanitary landfill site) / LAB Inward : 88375

Gujarat Pollution Control Board
Central Laboratory
Paryavaran Bhavan
Sector-10A
Gandhinagar-382010
Tele:23222756

TC-9667

Accreditation Standards & NABL Certificate Details : TC-9667 / -- / Issue: 12/07/2021 / Validity: 11/07/2023

TEST REPORT

Test Report No. : 88375 **Date: 11/05/2022**

1. Name of the Customer : Kalol Nagarpalica(Cc & A) - 25412
2. Address : -,-,- KALOL-382721, Taluka : Kalol, District : Gandhinagar., GIDC : Not In
3. Nature of Sample : REP-Representative/Grab, (Insp Type : OTH-Others/Higher Authority)
4. Sample Collected By : A.D.Khandhediya,S.O.
5. Quantity of Sample Received : 5 lit+Bact+DO
6. Code No. of the Sample : 349269
7. Date & Time of Collection & Inwarding : 28/04/2022 , (1145 to 1150) & 30/04/2022
8. Date of Start & Completion of Analysis : 30/04/2022 & 11/05/2022
9. Sampling Point : FROM THE THOL LAKE AT 23.14359, 72.39307 OPPOSITE TO RFO OFFICE ~
10. Flow Details (Remarks) : --
11. Mode of Disposal : -
12. Ultimate Receiving Body : No generation of industrial wastewater
13. Temperature on Collection : 28 & pH Range on pH Strip :@8
14. Carboys Nos for : barcode & Color & Appearance :turbid gray
15. Water Consumption & W.W.G (KLPD) : Ind :1172.000 , Dom :1172.000 & Ind :0.000 , Dom :1150.000
16. Parameter

Sr	Parameter	Unit	Test Method	Range of Testing	Result
1	Temperature	Centigrade	IS: 3025 (Part – 9) – 1984(Reaffirmed 2006)	Ambient oC - 60 oC	28
2	pH	pH Units	4500 H+ B APHA Standard Methods 23rd edi.2012	1 – 14 pH value As or	8.30
3	Colour	Pt.Co.Sc.	2120 B APHA Standard Methods 22nd edi. 2012	2 - to 99 Hazen & 1-50	108
4	Conductivity	micro.s/cm	2510 B APHA Standard Methods 22nd edi.-2012	1.0 µS/cm – 100 mS/c	3069
5	Total Dissolved Solids	mg/l	Gravimetric method. (2540 C APHA Standard Method	10 – 200000 mg/L	1678
6	Suspended Solids	mg/l	Gravimetric method. (2540 D APHA Standard Method	2 – 10000 mg/L	90
7	Ammonical Nitrogen	mg/l	1).Titrimetric method (4500 NH3 B & C APHA Standa	1 - 2000 mg/l.	14.62
8	Nitrite	mg/l	Spectrophotometric method. (4500-NO2 B APHA Sta	0.005 – 50 mg/l	0.07
9	Nitrate	mg/l	Cadmium reduction method As per Spectrophotometr	0.005 – 100 mg/l	0.77
10	Alkalinity as Caco3	mg/l	Titration method. (2320 B APHA Standard Methods 2	1 – 5000 mg/l	432
11	Chloride	mg/l	Argentometric method. (4500 Cl? B APHA Standard M	1 - 50000 mg/l	412
12	Sulphate	mg/l	APHA(23rd edi) 4500 SO4 E	2-40mg/l	188
13	Phosphate	mg/l	(4500-P D APHA Standard method 22nd edi)	0-50mg/l	1.234
14	Total coliform	MPN/100 ml	Multiple Tube Fermentation method.1. 9221 B APHA	<1.8 to > 1600 MPN/10	280
15	Fecal Coliform	MPN/100 ml	2.9221 E APHA 23rd Edition IS 1622-1981	<1.8 to >1600 MPN/10	70
16	Dissolved Oxygen	mg/l	Winkler method – Azide modification. (4500-O– C AP	0.1 – 8 mg/l	8.15
17	Chemical Oxygen Demand	mg/l	APHA (23rd Edition)- 5220 B Open Reflux Method-2	5.0- 50000 mg/l	158
18	Oil & Grease	mg/l	Liquid – Liquid Partition Gravimetric method. (5520 B	01 – 1000 mg/l	BDL
19	Phenolic Compounds	mg/l	4 Amino Antipyrene method without Chloroform Extra	0.1 – 50 mg/l	BDL
20	Fluoride	mg/l	SPADNS method (4500-F-D APHA standard Methods	0.10-40 mg/l	0.794
21	Sulphide	mg/l	APHA (23rd Edi.)4500-s2-F –iodometric Method	1-500.0 mg/l	1.2
22	Boron	mg/l	Colorimetric Curcumin method. (4500-B B. APHA Sta	0.1 – 10.0 mg/l	0.09
23	Iron	mg/l	(3111 B APHA Standard methods 21st edi)	0.02-150mg/l	BDL
24	Zinc	mg/l	(3111 B APHA Standard methods 21st edi)	0.005-100mg/l	BDL
25	Total Chromium	mg/l	3111 B APHA Standard methods 21st edi)	0.02-150mg/l	BDL
26	Hexavalent Chromium	mg/l	APHA (22nd Edition) –3500 – Cr B : -2012 Colorimet	0.1 – 100 mg/l	BDL
27	Copper	mg/l	3111 B APHA Standard methods 21st edi)	0.01-150 mg/l	BDL
28	Nickel	mg/l	(3111 B APHA Standard methods 21st edi)	0.02-150 mg/l	BDL
29	Lead	mg/l	(3111 B APHA Standard methods 21st edi)	0.05-150 mg/l	NA

30	Cadmium	mg/l	(3111 B APHA Standard methods 21st edi)	0.002-100 mg/l	BDL
31	B.O.D (3 Days 27oC)	mg/l	3 – Day BOD test. (IS 3025 (Part 44) 1993 Reaffirme	05–50000 mg/l	21
32	Arsenic	mg/l	(3111 B APHA Standard methods 21st edi)	-	BDL
33	Sodium Absorption Ratio(SAR)	SAR	IS11624-1986(Reaffirmed 2009)	1 – 50 v Meq/L	9
34	MERCURY	mg/l	(3111 B APHA Standard methods 21st edi)		BDL

Laboratory Remarks : Approved. By:682-aee_682 Dt.: 11/05/2022

Dr. S. N. Agravat

Note :

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5. Total liability of our laboratory is limited to the invoiced amount. Any dispute arising out of this report is subject to Gujarat Jurisdiction only.
6. Permissible Limits: as per Schedule VI of EPA Rules, 1986 as ammended by Second and Third ammendment 1993 for Effluents
7. Physicochemical and microbiological parameters, Std.Methods for Water and Waste Water- 23nd Edition by APHA.
8. Bioassay test (for toxicity) -IS:6582:Part-2:2001; Reaffirmed 2007.

ANALYSIS REPORT FOR
WATER / WASTE WATER SAMPLE

Gujarat Pollution Control Board
Central Laboratory
Paryavaran Bhavan
Sector-10A
Gandhinagar-382010
Tele:23222756

Sample ID:349269 - Analysis Completion:11/05/2022

Common treatment and disposal facilities(CETP, TSDF, Ewaste recycling, CBMWTF, effluent conveyance project, incinerator, solvent/acid recovery plant, MSW sanitary landfill site) / LAB Inward : 88375

TEST REPORT

Test Report No. : 88375 **Date: 11/05/2022**

1. Name of the Customer	: Kalol Nagarpalica(Cc & A) - 25412
2. Address	: -,-,- KALOL-382721, Taluka : Kalol, District : Gandhinagar., GIDC : Not In
3. Nature of Sample	: REP-Representative/Grab, (Insp Type : OTH-Others/Higher Authority)
4. Sample Collected By	: A.D.Khandhediya,S.O.
5. Quantity of Sample Received	: 5 lit+Bact+DO
6. Code No. of the Sample	: 349269
7. Date & Time of Collection & Inwarding	: 28/04/2022 , (1145 to 1150) & 30/04/2022
8. Date of Start & Completion of Analysis	: 30/04/2022 & 11/05/2022
9. Sampling Point	: FROM THE THOL LAKE AT 23.14359, 72.39307 OPPOSITE TO RFO OFFICE ~
10. Flow Details (Remarks)	: --
11. Mode of Disposal	: -
12. Ultimate Receiving Body	: No generation of industrial wastewater
13. Temperature on Collection	: 28 & pH Range on pH Strip :@8
14. Carboys Nos for	: barcode & Color & Appearance :turbid gray
15. Water Consumption & W.W.G (KLPD)	: Ind :1172.000 , Dom :1172.000 & Ind :0.000 , Dom :1150.000

Sr	Parameter	Unit	Test Method	Range of Testing	Result
1	Free Ammonia	mg/l	-	-	1.49

Laboratory Remarks : Approved. By:682-aee_682 Dt.: 11/05/2022

Dr. S. N. Agravat

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8. Bioassay test (for toxicity) -IS:6582:Part-2:2001; Reaffirmed 2007.

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Annexure – 10

Minutes of the meeting of Sub-Committee held on 10/05/2022

Minutes of the Meeting held on 10/05/2022 at 11:00 hrs by the sub-committee with concerned government departments, industries and industrial associations with reference to Hon'ble National Green Tribunal order dated 29/03/2022 in matter O.A. 228/2022.

Meeting of the sub-committee was held on 10/05/2022 at 11:00 hrs at the Prant Office, Kalol, Ta: Kalol, Dist: Gandhinagar with reference to Hon'ble National Green Tribunal order dated 29/03/2022 in matter O.A. 228/2022 for exploring alternate utilization / disposal of treated sewage from proposed Sewage Treatment Plant of Kalol Nagarpalika preferably within 20 Km radius of the Kalol town so as to ensure no direct / indirect discharge in Thol lake. The sub-committee members, concerned government departments, industries and industrial associations were informed regarding meeting agenda and schedule via letter dated 09/05/2022 by the Gujarat Pollution Control Board Regional Office – Gandhinagar.

The sub-committee meeting was conducted consisting of following sub-committee members:

1. Smt. K. A. Vaghela, Sub Divisional Magistrate – Kalol, Chairman of the Sub-committee
2. Shri P. C. Dave, Sub Divisional Magistrate – Kadi, Member
3. Shri D. C. Vankani, Regional Officer – Gandhinagar, Gujarat Pollution Control Board, Member Secretary of the sub-committee

Following officials from concerned government departments, industries and industrial associations were also present:

1. Shri D. R. Patel, Mamlatdat (Kalol – City), Kalol
2. Shri N. N. Bodat, Chief Officer, Kalol Nagarapalika
3. Shri Sindhu Kumar, Sardar Sarovar Narmada Nigam Limited (SSNNL), Kalol
4. Shri S. Mohan, Jt. General Manager (EPC), Indian Farmers Fertilizer Cooperative Limited, Kalol Unit
5. Shri Subhash Gadhavi, President, Kalol GIDC Industrial Association, Kalol
6. Shri C. R. Suthar, Panchayat Irrigation Sub Division – 2, Gandhinagar
7. Shri R. J. Manaloor, Deputy Executive Engineer, Drainage Sub Division – 2, Gandhinagar
8. Shri J. A. Priyadarshi, Deputy Executive Engineer, Gujarat Water Supply & Sewerage Board (GWSSB), Kalol
9. Shri R. K. Bodar, Assistant Engineer, NPC Sub Division 7/6, Sardar Sarovar Narmada Nigam Limited (SSNNL), Kalol

Smt. K. A. Vaghela, Sub Divisional Magistrate – Kalol, Chairman of the Sub-committee welcomed all the officials present during meeting.

Shri D. C. Vankani (Regional Officer – Gandhinagar, Gujarat Pollution Control Board and member secretary of the sub-committee) briefed about proceeding of joint committee meeting dated 28/04/2022 with stake holders and scope of the sub-committee i.e. exploring alternate utilization / disposal of treated sewage from proposed Sewage Treatment Plant of Kalol Nagarpalika preferably within 20 Km radius of the Kalol town so as to ensure no direct / indirect discharge in Thol lake."

Concerned officials were requested to submit their input / suggestion for alternate utilization / disposal of treated sewage from proposed Sewage Treatment Plant of Kalol Nagarpalika preferably within 20 Km radius of the Kalol town so as to ensure no direct / indirect discharge in Thol Lake.

Following discussion had taken place during meeting.

Shri S. Mohan, Jt. General Manager (EPC), Indian Farmers Fertilizer Cooperative Limited, Kalol Unit submitted following statement during meeting.

- Source of fresh water for Indian Farmers Fertilizer Cooperative Limited, Kalol Unit is from Main Narmada Canal. Water requirement is around 11 MLD (including township). Approximately 7.5 MLD water is used in cooling process, 4.2 MLD water is used in DM plant for steam generation and 0.8 MLD water is used in service water, drinking, township etc.
- They are having continuous process plant. If the parameter of the treated sewage is not as per their acceptance criteria, it may affect the functioning of the plant.

Shri N. N. Bodat, Chief Officer, Kalol Nagarapalika submitted following statement during meeting.

- Plant layout of STP includes treated wastewater storage tank and pumping station only. There is no provision for distribution of treated sewage.

Shri Subhash Gadhavi, President, Kalol GIDC Industrial Association, Kalol submitted following statement during meeting.

- Total 180 numbers of industries (Engineering unit, Rolling Mill Unit and Chemical units etc) are situated in GIDC Kalol. 2 MLD fresh water is consumed in by these units from GIDC Bore well.

Shri R. J. Manaloor, Deputy Executive Engineer, Drainage Sub Division – 2, Gandhinagar submitted following statement during meeting.

- Natural drain is for disposal of surface run-off only during monsoon season.
- If treated wastewater is discharged into natural drain for irrigation purpose than residues of wastewater might reach to Thol lake in monsoon season.

Shri Sindhu Kumar, Sardar Sarovar Narmada Nigam Limited (SSNNL), Kalol informed that through Narmada Canal water is distributed to:

1) Adani Shantigram Township – 3.784 MLD
2) Indian Farmers Fertilizer Cooperative Limited (IFFCO), Kalol Unit – 11.198 MLD
3) Arvind Ltd, Santej & Arvind and Smart Value Homes LLP – 1.29 MLD
4) Zydus Life Sciences – 1.254 MLD

He further informed that, except Indian Farmers Fertilizer Cooperative Limited – Kalol Unit, water is distributed for domestic including drinking purpose only. Water distribution to Indian Farmers Fertilizer Cooperative Limited (IFFCO), Kalol Unit includes for domestic and industrial purpose.

After detailed discussion on representations, it was decided to conduct further meeting of sub-committee on 12/05/2022 for exploring alternate utilization / disposal of treated sewage from proposed Sewage Treatment Plant of Kalol Nagarpalika preferably within 20 Km radius of the Kalol town so as to ensure no direct / indirect discharge in Thol lake. It was also decided to invite officials from following organization.

1) M/s Arvind Ltd – Santej Unit
2) Bharat Vijay Mills, Kalol
3) Deputy Executive Engineer, Drainage Sub Division, Vadnagar
4) NPMC Division – 2, Sardar Sarovar Narmada Nigam Limited (SSNNL), Gandhinagar
5) Deputy Executive Engineer, Gandhinagar Urban Development Authority (GUDA)
6) Notified Area Officer – Kalol GIDC

The meeting ended with a vote of thanks.

D. C. Vankani **Regional Officer** **GPCB - Gandhinagar**	**P. C. Dave** **Sub Divisional Magistrate** **Kadi**	**K. A. Vaghela** **Sub Divisional Magistrate – Kalol and Chairman of the Sub-committee**

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Annexure – 11

Minutes of the meeting of Sub-Committee held on 12/05/2022

Minutes of the Meeting held on 12/05/2022 at 11:30 hrs by the sub-committee with concerned government departments, industries and industrial associations with reference to Hon'ble National Green Tribunal order dated 29/03/2022 in matter O.A. 228/2022

Meeting of the sub-committee was held on 12/05/2022 at 11:30 hrs at the Prant Office, Kalol, Ta: Kalol, Dist: Gandhinagar hrs in continuation of the meeting of sub-committee dated 10/05/2022 with reference to Hon'ble National Green Tribunal order dated 29/03/2022 in matter O.A. 228/2022 for exploring alternate utilization / disposal of treated sewage from proposed Sewage Treatment Plant of Kalol Nagarpalika preferably within 20 Km radius of the Kalol town so as to ensure no direct / indirect discharge in Thol lake. The sub-committee members, concerned government departments, industries and industrial associations were already informed regarding meeting agenda and schedule via letter dated 11/05/2022 by the Gujarat Pollution Control Board Regional Office – Gandhinagar.

The sub-committee meeting was conducted consisting of following sub-committee members:

1. Smt. K. A. Vaghela, Sub Divisional Magistrate – Kalol, Chairman of the Sub-committee
2. Shri P. C. Dave, Sub Divisional Magistrate – Kadi, Member
3. Shri D. C. Vankani, Regional Officer – Gandhinagar, Gujarat Pollution Control Board, Member Secretary of the Sub-committee

Following officials from concerned government departments, industries and industrial associations were also present:

1. Shri N. N. Bodat, Chief Officer, Kalol Nagarpalika
2. Shri C. R. Suthar, Panchayat Irrigation Sub Division – 2, Gandhinagar
3. Shri N. V. Patel, Deputy Executive Engineer, Drainage Sub Division, Vadnagar
4. Shri J. A. Priyadarshi, Deputy Executive Engineer, Gujarat Water Supply & Sewerage Board (GWSSB), Kalol
5. Shri R. J. Manaloor, Deputy Executive Engineer, Drainage Sub Division – 2, Gandhinagar
6. Shri R. H. Shobhana, Deputy Executive Engineer, NPC Sub Division 7/6, Kalol, Sardar Sarovar Narmada Nigam Limited (SSNNL), Kalol
7. Shri A. N. Gajjar, Assistant Engineer, NPMC Division – 2, Sardar Sarovar Narmada Nigam Limited (SSNNL), Gandhinagar
8. Shri Sanjay Patel, Deputy Executive Engineer, Gandhinagar Urban Development Authority (GUDA), Gandhinagar
9. Shri D. R. Patel, Mamlatdar (Kalol – City), Kalol
10. Shri Y. R. Chauhan, Notified Area Officer – Kalol GIDC, Kalol
11. Shri M. B. Chaudhary, Secretary, Kalol GIDC Industrial Association (CETP), Kalol
12. Shri Subhash Gadhavi, President, Kalol GIDC Industrial Association, Kalol
13. Shri S. Mohan, Jt. General Manager (EPC), Indian Farmers Fertilizer Cooperative Limited, Kalol Unit

14. Shri Jitendra Chaudhary, Manager, Arvind Limited – Santej Unit
15. Shri Manish Patel, Bharat Vijay Mills, Kalol

Smt. K. A. Vaghela, Sub Divisional Magistrate – Kalol, Chairman of the Sub-committee welcomed all the officials present during meeting.

Shri D. C. Vankani, Regional Officer – Gandhinagar, Gujarat Pollution Control Board, Member Secretary of the Sub-committee briefed regarding Hon'ble National Green Tribunal (NGT) order dated 29/03/2022 in the matter O.A. 228/2022 (News item published in The Indian Express dated 19/03/2022 titled "STP given nod to discharge treated sewage into Thol") and informed regarding proceeding of joint committee meeting dated 28/04/2022 and sub-committee meeting dated 10/05/2022.

Concerned officials were requested to submit their input / suggestion for alternate utilization / disposal of treated sewage from proposed Sewage Treatment Plant of Kalol Nagarpalika preferably within 20 Km radius of the Kalol town so as to ensure no direct / indirect discharge in Thol Lake.

Following discussion had taken place during meeting.

Shri N. V. Patel, Deputy Executive Engineer, Drainage Sub Division, Vadnagar submitted following statement during meeting.

- Water is taken into Piyaj pumping station from Narmada Canal. They have provided connection in the ponds through pipeline and provision of intermediate pumping station for supply of water. 200 cusec water (489 MLD) can be supplied through the pipeline. Presently 75% i.e. 150 cusec (366 MLD) in Sujalam Suflam Circle 1
- Water is supplied for drinking and irrigation purpose through separate pipeline network. They have provided joint at the pumping station so as to divert the water for drinking and irrigation purpose as per requirement.
- They are supplying water during winter season only. Water is not required during monsoon season as rain water is available. They are not supplying water during summer as water is not supplied from Narmada Network and during summer bore well water is used for respective utilization.
- There is water demand during summer and treated domestic water can be used for irrigation, if proper infrastructure would be provided for water distribution and to have safety that treated domestic water would not get mixed with drinking water supply network.

Shri R. J. Manaloor, Deputy Executive Engineer, Drainage Sub Division – 2, Gandhinagar informed during meeting that, natural drain is for disposal of surface run-off only during monsoon season.

Shri Subhash Gadhavi, President, Kalol GIDC Industrial Association, Kalol submitted following statement during meeting.

- They have proposed Sewage Treatment Plant in the Kalol GIDC for treatment of generated sewage from Kalol GIDC and it is planned to reuse the treated sewage.
- If sewage generated from Kalol GIDC is taken into Kalol Nagarpalika drainage line for treatment into Sewage Treatment Plant of Kalol Nagarpalika, they will reuse the treated wastewater from Sewage Treatment Plant of Kalol Nagarpalika as per their requirement.
- In this case, ground water consumption of GIDC Kalol would reduce and they will use ground water for domestic purpose only.

Shri N. N. Bodat, Chief Officer, Kalol Nagarpalika submitted following statement during meeting.

- Approximately 80 sq. meter land would be left at existing oxidation pond after establishment of Sewage Treatment Plant of Kalol Nagarpalika. If guard pond is developed in this land approximately 400 MLD treated wastewater can be stored in the guard pond.

Shri S. Mohan, Jt. General Manager (EPC), Indian Farmers Fertilizer Cooperative Limited, Kalol Unit submitted following statement during meeting.

- They cannot use the treated sewage directly as it would have minimum Total Dissolved Solid (TDS) value of 600 PPM and it can affect the functioning of the plant.
- They require water with Total Dissolved Solid (TDS) value around 150 – 170 PPM and total hardness value below 120 PPM.
- They will be required to provide Reverse Osmosis (RO) and Ultra Filtration unit for treatment of treated sewage for further use in the process.
- Installation cost and operation cost of treatment plant to achieve the said parameters would be higher and it is not financially feasible.

Shri Jitendra Chaudhary, Manager, Arvind Limited – Santej Unit submitted following statement during meeting.

- Santej unit of M/s Arvind Limited is Zero Liquid Discharge unit. They required higher quantity of water initially and then water requirement reduces as the treated wastewater is recycled back.
- Plant is designed with 17 MLD water consumption and presently operating with 15 MLD consumption capacity.
- Presently, 2 MLD fresh water is used from bore well.
- They have done agreement with Jaspur Sewage Treatment Plant for consumption of 4 MLD treated wastewater of Jaspur Sewage Treatment Plant and currently receiving 3 MLD treated wastewater.

Shri Manish Patel, Bharat Vijay Mills, Kalol submitted following statement during meeting.

- Total water consumption would be about 2 MLD and they are planning for Zero Liquid Discharge and major treated wastewater would be recycled.

After detailed discussion on representations, following deliberations were made by the sub-committee during meeting.

1. As per Policy for Reuse of treated water as declared by Government of Gujarat – para no. - 8.1.1.2 : "It shall be mandatory for all Gujarat Industrial Development Corporation (GIDC) estates, all industrial units in Special Investment Region (SIR), Industrial parks large industrial units which are consuming minimum one lakh litre of fresh water per day for non-potable purpose and which are situated water per distance from STP or city limits to use TWW. However, it shall not be mandatory to use TWW wherever it comes in direct contact with human beings or is used in processes resulting in products for human consumption." Considering this provision, suitable options may be explored. This will help increasing the underground water table.
2. Kalol Nagarpalika shall publish / advertise for Expression of Interest (EoI) for utilization of treated wastewater from their Proposed Sewage Treatment Plant.
3. While draining the remaining treated water into canal of Sujalam Sufalam Circle-1 after distributing the treated water to industrial units and other purposes, it has to be ensured by Kalol municipality that it does not get mixed in the line of drinking water.
4. Kalol municipality will also have to ensure the quality standard of treated water through continuous monitoring.
5. Treated wastewater may be supplied to following based on feasibility. Kalol Nagarpalika shall explore / workout the following options and quantity of wastewater to be supplied to respective options based on feasibility.
    a. M/s Indian Farmers Fertilizer Cooperative Limited, Kalol Unit (if treated wastewater quality is feasible for utilization)
    b. GIDC – Kalol
    c. M/s Arvind Limited, Santej
    d. M/s Bharat Vijay Mill, Kalol
    e. For irrigation to Sujalam Suflam Circle – 1 through their existing pipeline. Some technical modification in existing pipeline shall be done so as to ensure that, treated wastewater do not get mixed with water supplied for drinking purpose.
    f. Utilization in the garden area of Kalol Nagarpalika, to meet water demand / requirement of the construction activities and for dust suppression.

The meeting ended with a vote of thanks.

D. C. Vankani **Regional Officer** **GPCB - Gandhinagar**	**P. C. Dave** **Sub Divisional** **Magistrate Kadi**	**K. A. Vaghela** **Sub Divisional** **Magistrate – Kalol and** **Chairman of the Sub-committee**

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Annexure – 12

Photograph of Sub-Committee meeting

Photograph of the Sub-Committee meeting held on 12/05/2022 at Prant Office - Kalol