

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL NEW DELHI

O.A. No. 125 of 2017 & 217 of 2017

IN THE MATTER OF :-

Court on its own Motion

....PETITIONER.

VERSUS.

State of Karnataka & ORS.

....RESPONDENTS.

INDEX.

Next Date 12/03/2021.

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THROUGH



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Date:-09/03/2021.

Place New Delhi

**BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI**

Original Application No. 125 of 2017

And

Original Application No. 217 of 2017

IN THE MATTER OF:

Court on its own motion

...Applicant

Versus

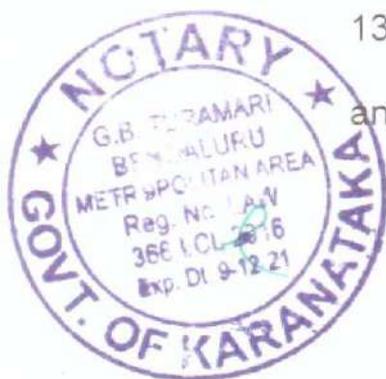
State of Karnataka

..Respondent

AFFIDAVIT ON BEHALF OF THE STATE OF KARNATAKA

I, Sri.P.Ravikumar S/o Sri.P.Gopal Reddy aged 59 years working as the Chief Secretary to Government, Vidhana Soudha, Bengaluru, Karnataka State, and as such I am well acquainted with the facts and circumstances of the case based on available records. I do hereby solemnly affirm and state on oath as follows.

1. The instant affidavit is being filed pursuant to the directions issued by this Hon'ble Tribunal vide its order dated 13.08.2020 read with its earlier orders dated 06.12.2018 and 18.12.2019.



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2. The progress and the Committee observation report with respect to Bellandur and Varthur Lake updated till 31.01.2021 submitted by the Monitoring Committee before this Hon'ble NGT on 15.02.2021. Pursuant to the report, the further progress made by the various departments are mentioned in the extreme right column of the compliance report updated till 28.02.2021 under the heading "**Remarks/explanations on behalf of State of Karnataka**". The said compliances mentioned in the said report may be read as the part and parcel of the instant affidavit for the convenient perusal of this Hon'ble Tribunal. The compliance report along with its annexure is annexed herewith and marked as **Annexure - R**.

3. That the endeavour of the State of Karnataka and its various departments is to comply with the directions of this Hon'ble Tribunal and to this end it is making best efforts for achievement of the same.

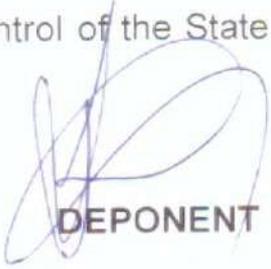
4. It is most humbly prayed that any delay caused in its compliance may be condoned and further time may be



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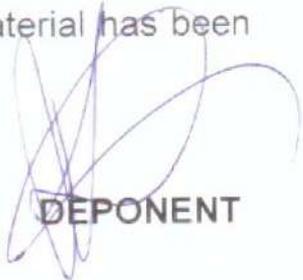
granted to complete the tasks which are yet to be completed.

5. It is most humbly submitted that any delay caused in completion of any of the directed tasks is neither intentional nor deliberate but due to factors not in control of the State of Karnataka.


DEPONENT

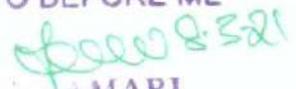
Verification

Verified at Bengaluru on this 8th day of March, 2021, that the contents of the above Affidavit are true and correct to my personal knowledge and on the information received and delivered, are believed to be true and nothing material has been concealed.


DEPONENT



SWORN TO BEFORE ME


G.B. TURAMARI
ADVOCATE & NOTARY
46/1, Behind Binny Mill
1st Main Road, Ganganager Extn
BENGALURU - 560 032

ANNEXURE- R

**BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI
ORIGINAL APPLICATION NO. 125 OF 2017**

IN THE MATTER OF :-

Court on its own Motion

... Applicant(s)

:: VERSUS ::

State of Karnataka

... Respondent(s)

Compliance report on the directions issued by this Hon'ble Tribunal vide orders dated: 06.12.2018, 18.12.2019, and 13.08.2020 with regard to the Bellandur and Varthur Lake and the progress report submitted by the Monitoring Committee on 15.02.2021

Pursuant to the directions issued by the Hon'ble National Green Tribunal (NGT) in its order dated 13.08.2020 read with its earlier orders dated 06.12.2018 and 18.12.2019, the compliance report with respect to Bellandur and Varthur Lake updated till 28.02.2021 is as below:

In this updated compliance report, details are given with reference to directions contained in orders dated 06.12.2018, 18.12.2019 and 13.08.2020.

Sl. no	<i>Directions of Hon'ble NGT vide orders dated 06.12.2018, 18.12.2019 and 13.08.2020</i>	Observations of Monitoring Committee on progress up to 31.01.2021	Remarks/explanations on behalf of State of Karnataka						
1	Relevant para	3	4						
1.	Para 28(i) Order dated 18.12.2019: <i>Timelines for execution of projects for setting up of STPs and laying of sewerage network may not be extended beyond 30.09.2020. If the works remains incomplete even till 30.09.2020, compensation</i>	<p>In regard to the construction of STPs and their commission, the details are given as under(BWSSB):</p> <table border="1" data-bbox="954 439 1359 1666"> <thead> <tr> <th data-bbox="954 1599 1034 1666">Sl. no</th> <th data-bbox="954 1144 1034 1599">Name of the STP / others</th> <th data-bbox="954 439 1034 1144">Compliance</th> </tr> </thead> <tbody> <tr> <td data-bbox="1034 1599 1359 1666">i.</td> <td data-bbox="1034 1144 1359 1599">Sarakki – 5 MLD STP</td> <td data-bbox="1034 439 1359 1144">Completed and commissioned on 08.11.2019.</td> </tr> </tbody> </table>	Sl. no	Name of the STP / others	Compliance	i.	Sarakki – 5 MLD STP	Completed and commissioned on 08.11.2019.	<p>i. Sarakki – 5 MLD STP Presently, the treated water is let into Sarakki Lake. Photographs enclosed in Annexure.-R-1(Vide Pg No.48 to 51</p>
Sl. no	Name of the STP / others	Compliance							
i.	Sarakki – 5 MLD STP	Completed and commissioned on 08.11.2019.							

<p><i>will be liable to be paid @ Rs.10 lakh per STP per month which may be liable to recovered from the erring officers, apart from adverse entries in their service records and other adverse action.</i></p> <p><i>Further, the NGT vide order dated 13.08.2020 has directed that, the works may be expeditiously completed and to be reviewed by the Monitoring Committee.</i></p>	<p>ii. Chikkabeguru - 5 MLD STP</p>	<p>Completed and commissioned on September 2020.</p>	<p>ii. Chikkabeguru – 5 MLD STP</p> <p>Presently, the treated water is let into Chikka Begur Lake.</p> <p>Photographs enclosed in Annexure- R-2 (Vide Pg.No.52 to 55)</p>
	<p>i. Hulimavu – 10 MLD STP</p>	<p>Completed and commissioned on 31.03.2020</p>	<p>i. Hulimavu – 10 MLD STP</p> <p>Presently the treated water is let into Hulimavu Lake.</p> <p>Photographs enclosed in Annexure- R-3 (Vide Pg.No.56-60)</p>
	<p>ii. Agram – 35 MLD STP</p>	<p>Completed and commissioned on 31.03.2020</p>	<p>ii. Agram STP</p> <p>Presently the treated water is let into Agram Lake.</p> <p>Photographs enclosed in Annexure –R-4 (Vide Pg.No.61-66)</p>

	<p>iii. Madiwala – 4 MLD STP</p>	<p>24.5% work completed</p>	<p>iii. Madiwala STP</p> <ul style="list-style-type: none"> Initially, Construction of this STP was taken up by the Karnataka Lake Conservation and Development Authority with funds from KSPCB. Due to poor progress, this work was handed over to BWSSB. BWSSB has taken up the up-gradation of this STP and the overall progress as on 22.02.2021 is 33.00 % against the planned target of 100.00%. Due to Covid-19 pandemic there is delay, however, the work will be completed by December 2021. As an interim measure, to avoid sewage entry into the Madiwala lake, the sewage which was
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				<p>earlier augmented to this STP is now diverted to Agarm ISPS by linking this network to ISPS through 900mm dia sewer link line, Photographs enclosed in Annexure R-5 (Vide Pg.No.67-70)</p>
	<p>iv. K&C Valley – 150 MLD STP</p>	<p>90.01 % works completed as on 31.01.2021. Primary treatment is in progress and likely to be completed by 31.03.2021 and expected to treat 83MLD sewage (with this augmentation, 536 MLD (92%) would be treated as against 583 MLD)</p>	<p><i>iv) In spite of effects of Covid19, pandemic effects, the overall progress as on 22.02.2021 is 91% against the planned target of 100.00%.</i></p> <ul style="list-style-type: none"> • Due to Covid 19 pandemic conditions like, Migration of Labour, Shutdown of industries of specialised equipment's manufacturing units, non-availability of construction materials like cement, steel, 	

aggregates, etc., the shortfall is mainly in civil works and installation of plant and machineries.

- At present, the facilities for augmenting the sewage have been completed and intake of sewage has been taken on 31.12.2020 and primary treatment is in progress.
- Action is in progress to commission the balance line of treatment in a phased manner by 31-03-2021.

Photographs enclosed in Annexure -R-6 (Vide Pg.No.71-83)

v) The ISPS is ready for operation. The sewage will be pumped after completion of the 150 MLD STP and . Laying

<p>The work is completed and ready for operation. The water will be pumped to 150 MLD STP,once the remaining pipe network is completed, (yet to complete 252 Rmt)</p>	<p>Construction of 210 MLD capacity ISPS at Koramangala at sports complex</p>	<p>v.</p>

<p>of pipe network, which are in progress. Photographs enclosed in Annexure R-7 (Vide Pg No.84-85)</p>		
<p>vi.</p>	<p>Laying of 1800 mm UGD from 210 MLD ISPS to 150 MLD STP</p>	<p>Against the 5315-running meter; 5063 running meter is completed. Likely to be completed by 31.03.2021.</p>
<p>vi) As the location of the work lies at the end of the valley the SWD carries huge quantity of storm water. Hence, laying of pipelines in the storm water drains (SWD) is very difficult and time consuming. At present, 5295 RMT of pipeline work is completed against 5315 RMT (excluding TT & Bend length).</p> <ul style="list-style-type: none"> • Due to COVID-19 pandemic, the firm lost time to tackle the work in SWD from 23.03.2020 to May 2020. • Further, the work was 		

			<p>delayed due to the monsoon which set in from June 2020 and lasted up to 10th of December 2020.</p> <ul style="list-style-type: none"> The work will be commissioned on or before 31st March 2021. <p>Photographs enclosed in Annexure- R-8 (Vide Pg.No.86-92)</p>
		<p>vii. Waste water wet well – 32.5 MLD Capacity near the premises of 90 MLD Bellanduru Amanikhane STP to augment sewage from the adjoining areas of Bellanduru Amanikhane STP (date fixed for completion 30.09.2020)</p>	<p>The overall progress as on 31.01.2021 is 45.75 % against the planned target of 100.00%. This work will be completed before 31.03.2021. However, the temporary arrangement has been made for pumping sewage to Bellanduru Amanikhane STP.</p>
			<p>vii) The overall progress as on 22.02.2021 is 55% against the planned target of 100.00%.</p> <ul style="list-style-type: none"> Due to Covid 19 pandemic conditions like, Migration of Labour, non-availability of construction materials like cement, steel, aggregates, etc., there is Delay.

		<ul style="list-style-type: none"> • Also, the strata met with is in Wet well is hard rock, excavation. In hard rock wedging and chiselling is time consuming. • However, temporary arrangement has been made for pumping sewage to Bellandur Amanikhane STP. • This work will be completed before 31.03.2021. <p>Photographs enclosed in Annexure-R-9(Vide Pg.No.93--97)</p>	
2.	<p>Para No.14 Order Dated 18.12.2019 <i>We also found that timelines fixed by this Tribunal have been unilaterally extended without any</i></p>	<p>The BWSSB submits that, STPs of 90 MLD at Bellandur Amanikere; 60 MLD at K&C Valley; 5 MLD at Sarakki; 5 MLD at Chikkabegur; 10 MLD Hulimavu; 35 MLD at Agramand 150 MLD at K&C Valley (under construction) are complied with Biological Nutrient Removal treatment.</p> <p>The BWSSB further submits that for the 248 MLD STP at K&C Valley, certain modifications in the process of treatment have been made in consultation with the IISc, Bengaluru, for removal of nutrients. On sample analysis it is found that the biological nitrates have been reduced substantially (nitrogen 6.4 mg per ltr and phosphates 0.85 mg per ltr). It is noted that, the treated water from these STPs is being transmitted to the tanks in Kolar Districts for recharge of ground water for irrigation purpose. However,</p>	<ul style="list-style-type: none"> • No response was received for the tenders floated due to COVID conditions. • To comply, based on inputs from the IISc, Bengaluru and the consultants viz M/s

	<p><i>valid justification and no action has been taken against the erring officers on a specious plea that it was difficult to fix responsibility. Such approach is hardly compliant with the Rule of Law. We particularly disapprove the timeline for upgradation of STPs with Biological Nutrient Removal (BNR) at 248.MLD STP at K&C Valley. The same must not go beyond 30.09.2020 but preferably be completed</i></p>	<p>the upgradation of the system has not been completed but is in process.</p> <p>CH2M Hill India Pvt. Ltd., modifications in the processes have been made to ensure removal of nutrients in the two STP's i.e. 30 MLD STP & 218 MLD STP.</p> <ul style="list-style-type: none"> • Samples were collected jointly by CPCB, KSPCB and I.I.Sc. The results furnished by them are annexed. • The treated effluents from all the three above STPs and one more 90 MLD STP at Bellandur Amanikere are eventually conveyed to the Minor Irrigation Jack Well situated near
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	<p><i>before 30.06.2020 although earlier timeline fixed by this Tribunal was 30.06.2019. No substantial work has been done in the last one year on this aspect.</i></p>	<p>Bellandur Amanikere, from where the effluent is finally discharged into Lakshmi Sagar Lake of Kolar District.</p> <ul style="list-style-type: none"> • As per the test reports, the Total Nitrogen is 6.4 mg/ltr and the Total Phosphates is 0.85 mg/ltr, which is within the ranges as suggested by Hon'ble NGT Monitoring Committee. • The professors of IISc (who are entrusted with the studies of Environmental Impact due to augmentation of treated water from K&C Valley STP's into Kolar District
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<p>Lakes have shared the results of the samples collected to at Lakshmi Sagar Lake</p> <ul style="list-style-type: none"> As reported by them, the Biological Nutrients in the ultimate discharge point of Lakshmi Sagar Lake are well within the stipulations. 		
<p>BWSSB: The aerating systems in the 6 locations were installed before 31.01.2020. Subsequently, in order to enhance the interim remediation artificial floating islands have also been installed.</p>	<p>It is submitted that, the sewage water has been diverted through the peripheral temporary diversion channels and no sewage water entering these lakes (Agram, Bellanduru and Varthur). Further, the BWSSB has installed aerating systems in these temporary diversion channels at, 1) HAL side and Kempapura inlet, 2) Agaram inlet, 3) Koramangala inlet, 4) Iblur inlet coming under Bellandur Lake, 5) Northern and 6) Sothern side of Varthur lake for inline treatment of sewage. The artificial floating is lands have also been installed at certain places. The committee has suggested to augment phyto remediation options at locations, where the water flow is slow or stagnant to enhance the treatment efficacy, which is yet to be implemented.</p>	<p>Para 28(ii) Order dated 18.12.2019: <i>Bengaluru Water Supply and Sewerage Board (BWSSB) must ensure that no sewage/effluent is discharged into the lakes and till completing of STPs, interim</i></p>

	<p>remediation must be done forthwith. Any default in this regard will result in requirement to pay compensation of Rs.5 lakh per month per inlet into the lakes from 01.02.2020.</p>		<p>Photographs and Test Reports enclosed in Annexure R-10(Vide Pg.No.98-103)</p>
<p>4.</p>	<p>Para 28(iii) Order dated 18.12.2019: BSWWB may further ensure that treated water is not discharged into the UGD network. Action may be taken against persons responsible for having allowed this to be done earlier resulting into loss of Rs.2 Lakhs per day i.e.Rs.60 Lakhs per month and more than Rs.7</p>	<p>There are about 496 buildings having STPs as per the KSPCB records. The BWSSB submits that, wherever there was connectivity with the UGD for flowing of treated water; all have been disconnected (109 buildings). For the remaining areas there is no access to networking of UGD.</p> <p>The BWSSB submits that, treated water was allowed as per the conditions stipulated in the order issued by KSPCB. In view of these facts and circumstances, it is requested by BWSSB not to initiate action against their officials.</p>	<p>In view of the facts and circumstances explained to the Monitoring Committee, it is requested not to initiate action against the officials.</p>

	<p><i>Crone per year without any justification whatsoever. BY BWSSB</i></p>		
<p>5.</p>	<p><i>Para No.16 Order Dated 18.12.2019 We are informed that about 256.7 MLD untreated sewage is entering the lake from five locations which is nothing but a criminal offence which is required to be checked on war footing and violators of law brought to justice, erring officer being appropriately dealt with under the civil, criminal and service law with</i></p>	<p>The BWSSB submits that to check the flow of sewage water into the lakes, following works have been completed.</p> <ol style="list-style-type: none"> HAL SWD (Challaghatta Valley) – Totally 23 works are to be taken up for augmenting this flow, out of which 23 works are completed as on 23.12.2020. Koramangala and Agram Valley-Totally 48 works are to be taken up for augmenting this flow out of which 48 works are completed on 23.12.2020. Iblur Catchment area- Completed and Commissioned on 23.12.2020. Kempapura Catchment area- BWSSB has taken up work of laying 300 mm RCC NP3 sewer line for a length of 1000 RMT to convey the sewage generated in the area of Bellanduru Amanekhane STP. The work is completed and commissioned in the month of May 2020. <p>The BWSSB submits that, the combined treatment capacity in the catchment of these lakes will be around 664.50 MLD against the presently measured flow of 553 MLD. Presently, about 453.50 MLD of sewage is being treated. Additional treatment of 83 MLD would be augmented by commissioning of new STP (end of March 2021). Therefore, there will be treatment of 536.50 MLD (92 %) as against the measure flow of 583 MLD.</p> <p>The Committee observes that the BWSSB has to take steps to treat the remaining 8 to 10 % of sewage to stop completely the flowing of sewage into the lakes after rejuvenation.</p>	<p>The flow in the SWDs was measured in the month of April-2019 and the details of flow are as below:</p> <p>HAL-48.60 MLD</p> <p>Agaram & Koramangala (Y-Junction)-179.50 MLD</p> <p>Total-228.10 MLD</p> <p>The flow details of STPs at K&C Valley, Bellanduru on the day of measurement were:</p> <p>218 MLD-170 MLD</p> <p>60 MLD-22 MLD</p> <p>30 MLD-26 MLD</p> <p>90 MLD-30 MLD</p> 

	<p><i>a view to uphold the Rule of Law. There is large scale breach of public duties concerned Authorities dealing with the subject and earlier observations of this Tribunal have fallen on deaf ears and blatantly flouted.</i></p>	<p>It is submitted here that, as per the earlier recommendations of the Committee, the water level in these lakes will be maintained by supplying treated water from the STPs daily to compensate evaporation and seepage losses. Only the surplus treated water should be allowed to flow to Kolar, Chikkaballapur, Anekal etc.</p> <p>Total-248 MLD</p> <p>After carrying out major interlinking/new pipeline works on the upstream side, the flow was measured in the 1st week of March-2020. The details are as follows:</p> <p>HAL-31.4 MLD</p> <p>Agaram&Koramangala (Y-Junction)-114.26 MLD</p> <p>Total-145.66 MLD</p> <p>The flow details of STPs at K&C Valley, Bellandur on the day of measurement were:</p> <p>218 MLD-180 MLD 60 MLD-51 MLD 30 MLD-30 MLD 90 MLD-70 MLD Total-331 MLD</p> <p>At present, the flow details of STP at K&C</p>
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valley measurement were:		
<p>218 MLD-194 MLD 60 MLD-60MLD 30 MLD- 30MLD 90 MLD -90 MLD 50 MLD-45MLD 2MLD-1.50MLD 1.50MLD-1.50MLD 4MLD-2MLD 5MLD-4.50MLD 10MLD-5MLD 5MLD-2MLD 35MLD-18MLD Total=453.50 MLD.</p> <ul style="list-style-type: none">• As can be seen from the above the flow in the SWD has been reduced to an extent of 159 MLD and is being augmented to STPs• The combined treatment capacity of the above plants will be 664.50 MLD against the measured flow of		

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			<p>583 MLD. Presently, 453.50 MLD of sewage is being treated and 83 MLD will be augmented to new STP which is under construction and will be completed by Last week of March 2021. The total treated sewage will be 536.50 MLD (92%) by the last week of March 2021 as against the measured flow of 583 MLD (The detail report is enclosed as Annexure- R-11 (Vide Pg.No.104-110))</p>										
6.	<p>Para 28(iv) Order dated 18.12.2019: Sources of discharge of Sewage controlled/ regulated and electricity and water supplies to the defaulting establishments</p>	<p>The KSPCB has identified 91 units in total that are required to be installation of STP. The details of progress are given as under:-</p> <table border="1" data-bbox="1045 436 1292 1657"> <tr> <td>No. of units Installed STP</td> <td>42</td> </tr> <tr> <td>No. of units connected to BWSSB</td> <td>06</td> </tr> <tr> <td>No. of units with STP under construction</td> <td>07</td> </tr> <tr> <td>No. of units issued with Closure orders for either not having STPs or not connected to UGD and letting the raw sewage into the storm water drain</td> <td>10</td> </tr> <tr> <td>Action yet to be taken</td> <td>26</td> </tr> </table>	No. of units Installed STP	42	No. of units connected to BWSSB	06	No. of units with STP under construction	07	No. of units issued with Closure orders for either not having STPs or not connected to UGD and letting the raw sewage into the storm water drain	10	Action yet to be taken	26	<p>As on 20.03.2020, there were 61 units which had not installed STP, out of which 25 units have installed STP; and the remaining 36 units have not installed STP units. Closure orders have been issued to 10 units which have not installed STP units and closure orders for the remaining</p>
No. of units Installed STP	42												
No. of units connected to BWSSB	06												
No. of units with STP under construction	07												
No. of units issued with Closure orders for either not having STPs or not connected to UGD and letting the raw sewage into the storm water drain	10												
Action yet to be taken	26												

	<i>be stopped for enforcement of law till remedial steps are taken for compliance.</i>		units are under consideration.
7.	<p>Para 28(v) Order dated 18.12.2019: <i>Encroachments which are still continuing be removed by using force wherever necessary. If any injunction has been erroneous, higher forum can be moved so that law is upheld.</i></p>	<p>An area of 5.20 Acres in Sy.No.319 was granted to a person from the village of Amani Bellandurukane during 1976-77 and a new survey number 477 have been formed. This survey number was the part of Varthur lake. The matter is under process for cancelation of grant and pending before the concerned Assistant Commissioner. The other encroachments are stated as removed.</p> <p>Illegal constructions in Ballandur lake (named as Ambedkar Nagar slum) are yet to be evicted</p>	<p>Out of 228 dwellers in Ambedkar Slum, 128 have shifted to Marathahalli.</p> <p>These 128 sheds have been demolished on 16.11.2019. The remaining occupants have filed PIL in the Hon'ble High Court of Karnataka, Bengaluru on 20.11.2019 vide Writ Petition No.50953/2019 (CM-RES) and obtained stay order on 20.11.2019.</p> <p>The Hon'ble High Court of Karnataka, Bengaluru through interim orders has given relief to the petitioners till next date of hearing on 13.01.2021.</p> <p>Next Date of hearing is</p>

	<p>8. Para 28(vi) Order dated 18.12.2019: <i>Action against erring officers which has not yet been taken must be initiated forthwith as already directed. Failures of officers still in service should be reflected in their ACRs.</i></p>	<p>The Additional Chief Secretary, Urban development Department, has submitted the following details in regard to action initiated in the subject matter. The same is produced here for further needful.</p> <p>1) <u>Bengaluru Development Authority</u> :</p> <table border="1" data-bbox="683 434 1169 1664"> <thead> <tr> <th>Sl. No</th> <th>Name of erring officer/ official</th> <th>Designation and Period</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>RizwanBaig</td> <td>Executive Engineer From 2010 to 2011 & 2015 to 2016</td> </tr> <tr> <td>2.</td> <td>S.Mallikarjuna Swamy</td> <td>Executive Engineer from 2010 to 2011 & 2015 to 2016</td> </tr> <tr> <td>3.</td> <td>Ravi Narayana Reddy</td> <td>Executive Engineer from 2010 to 2011 & 2015 to 2016</td> </tr> </tbody> </table>	Sl. No	Name of erring officer/ official	Designation and Period	1.	RizwanBaig	Executive Engineer From 2010 to 2011 & 2015 to 2016	2.	S.Mallikarjuna Swamy	Executive Engineer from 2010 to 2011 & 2015 to 2016	3.	Ravi Narayana Reddy	Executive Engineer from 2010 to 2011 & 2015 to 2016	<p>on 08/03/2021 (Copy enclosed).Further action will be taken as per the Order of Hon'ble High Court of Karnataka.</p>
Sl. No	Name of erring officer/ official	Designation and Period													
1.	RizwanBaig	Executive Engineer From 2010 to 2011 & 2015 to 2016													
2.	S.Mallikarjuna Swamy	Executive Engineer from 2010 to 2011 & 2015 to 2016													
3.	Ravi Narayana Reddy	Executive Engineer from 2010 to 2011 & 2015 to 2016													
		<p>Notices were served to erring officials on 19.02.2020 seeking their replies within 15 days. Replies were received from all the above mentioned officials. On scrutiny of the explanations given by them, the Additional Chief Secretary (ACS), submits that the replies are found acceptable.</p>	<p style="text-align: right;">22</p>												

2) BBMP: Period from 20.09.2008 to 03.05.2011

Sl. No	Name of erring officer/ official	Designation and Period	Present Dept
1.	J.C.PrakashMurthy	Assistant Engineer(1.10.2008 to30.11.2009)	PWD
2.	H.P.MohanKumar	Assistant Executive Engineer (2.03.2009 to3.1.2011)	PWD
3.	H.Chandrappa	Assistant Engineer, K.R.Puram Sub-Division,(2.12.2009 to 11.1.2012)	PWD
4.	J.C.PrakashMurthy	Assistant Executive Engineer, (after promotion)(2.12.2009 to 7.7.2010)	PWD

The State Government vide No.UDD/91/MNJ/2017, Dated.11.12.2020 directed BBMP to take necessary action on the erring officials as per the directions of the Hon'ble NGT and to submit a compliance report by 20.12.2020. The draft charges memo has been submitted to the concerned Administrative Department i.e., PWD for further necessary action.

3) BWSSB

Sl. No.	Name	Designation
1.	S.M. Basavaraju	Chief Engineer (14.11.2006 to 08.04.2013) & 10.05.2013 to 29.03.2014)
2.	S.M. Ramakrishna	Chief Engineer (29.03.2014 to 31.07.2017) as Chief Engineer WWM
3.	S.R. Roopa Kumar	Additional Chief Engineer (31.010.2007 to 05.06.2008)
4.	S.P. Rudra Murthy	Additional Chief Engineer (05.06.2008 to

Some of the retired officers of BWSSB have approached the Hon'ble High Court. In response to this, the Hon'ble High Court has issued an

		<p>The ACS submits that officers who have worked in the specified period have been identified and show cause notices have been issued to them. The replies obtained from these officers have been reviewed and found to be not acceptable. Hence, the formal approval of the Government has been sought vide letter dated.26.05.2020 for initiating disciplinary proceedings on all the concerned retired officers of BWSSB. In this regard, the State Government in letter dated.27.10.2020 has accorded approval to conduct department enquires on all the concerned retired officers of the Board. As per rule 214 (2)(B)(i) and (ii) of KCSR, action has been initiated to conduct Departmental enquiry and for this purpose show-cause notices have been issued to all the retired officers on 18.12.2020 giving 15 days' time to submit their replies. All the retired officers have sought many details and additional time for furnishing their replies. After getting their replies, further action will be initiated.</p>	interim order of stay.
9.	<p>Para 28(vii) Order dated 18.12.2019: The State PCB</p>	<p>The KSPCB submits that the Bureau of Indian Standards has issued notification for limiting the Phosphorus content in household laundry detergents powders, household laundry detergents bars and synthetic detergents of washing woollen and silk fabrics.</p>	<p>• BIS has released revised standards on the Phosphorus content in</p>

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	<p><i>itself may lay down standards for phosphorus instead of waiting for notification.</i></p>	<p>Further they submit that some follow up action has been taken as listed below:-</p> <ol style="list-style-type: none"> 1. A public notice is issued by KSPCB in this regard in the print media. 2. Letters are addressed to all the State PCB's to directly implement the order. 3. Letters are addressed to all the soap/detergent manufacturers in the state of Karnataka for the restriction of Phosphorus content. 4. Letter is addressed to MOEF for making a final notification. 	<p>soaps/detergents during August, 2020.</p> <p>Follow up action has been taken by the Board as also noted by the Monitoring Committee. Public notice/letters attached as Annexures-R-12. (Vide Pg.No.111-114)</p>
<p>10. Para 28(viii) Order dated 18.12.2019: <i>The State of Karnataka may either resolve the issue of fencing with the Defence establishment or put such establishments to notice to place their objections before this Tribunal within one month of such notice</i></p>	<p>The issue of rising of fencing towards the Defence area have been resolved. The Commissioner, BDA, submits that an estimate is prepared and sent for 4(G) exemption to the Government for the construction of fence. Further, in regard to de-silting a portion of the lake, there is a dispute pending with the Defence.</p>	<p>The Finance Department approved the proposal of BDA for undertaking the left over fencing work under 4(G) exemption and issued orders vide FD 57 EXP -12/2021 dated 05.02.2021.</p> <p>Commissioner, BDA has written a letter No BDA/Com/EM/T-296/2020-21, Dated 08.02.2021 to Lt.Gen, Commandant & Colonel Commandant ASC, ASC Centre & College, Bangalore and also had a</p>	<p>Commissioner, BDA has written a letter No BDA/Com/EM/T-296/2020-21, Dated 08.02.2021 to Lt.Gen, Commandant & Colonel Commandant ASC, ASC Centre & College, Bangalore and also had a</p>

after which the State of Karnataka will be at liberty to proceed with the fencing and such Defence establishment will stand restrained from interfering unless otherwise directed by this Tribunal or any other authority.

meeting with him.

During the meeting, the Commissioner requested for permission to make use of the defence area for de-silting in the defence portion of lake and also sought approval for depositing the de-silted muck in the low lying areas of the defence land. Lt.Gen has agreed in principle to allow only non-hazardous silt to be deposited in the defence land where it will be beneficial in development of army training areas & reclaiming of low-lying land.

On receipt of a formal permission from the defence authority, the work of chain link fencing and de-silting in the defence area will be taken up and completed.

11.	<p>Para 28(ix) Order dated 18.12.2019: <i>Compensation already assessed to be recovered by adopting coercive measures such as disconnection of electricity and water supplies.</i></p>	<p>In regard to this para, the KSPCB submits as under:-</p> <table border="1" data-bbox="292 432 459 1664"> <tr> <td>Total No. of units issued with notice for EC and Amount.</td> <td>376 units (Rs.19.85 Crores)</td> </tr> <tr> <td>No. of units paid EC and Amount</td> <td>40 units (Rs.2.10 Crores)</td> </tr> <tr> <td>Action yet to be taken for recovery</td> <td>336 units</td> </tr> </table> <p>M/s. Durga rainbow flat owner's welfare association has filed an impleading application before the Hon'ble NGT on 30.08.2020.</p>	Total No. of units issued with notice for EC and Amount.	376 units (Rs.19.85 Crores)	No. of units paid EC and Amount	40 units (Rs.2.10 Crores)	Action yet to be taken for recovery	336 units	<p>Where recovery is due, action is being taken to request the Deputy Commissioners concerned to recover the amounts from the concerned as arrears of land revenue. ANNEXURE-R-13(Vide Pg.No.115-129)</p>
Total No. of units issued with notice for EC and Amount.	376 units (Rs.19.85 Crores)								
No. of units paid EC and Amount	40 units (Rs.2.10 Crores)								
Action yet to be taken for recovery	336 units								
12.	<p>Para 28(x) Order dated 18.12.2019: <i>Steps be taken expeditiously for de-silting, de-weeding. Analysis of sludge and silt may be carried out before its disposal based on the result of such analysis, the mode of</i></p>	<p>KSPCB has collected series of samples of Silt/sludge at different depth with grid manner on 25th, 26th & 27th of December 2020. Besides sample collected on 16/09/2020, 18/09/2020, 12/11/2020, 19.12.2020 & 5.1.2021</p> <p>The CPCB has given a report for Varthur lake based on TCLP and STLC analyses of silt samples. As per the protocol based on TCLP and STLC analyses, the soil is non-hazardous and accordingly the permission is accorded to BDA by KSPCB to dispose silt from the locations showed in the grid map based on local demand. As regards to Bellandur Lake, the analysis of sediment samples for leachability tests is under progress.</p>	<p>KSPCB has collected series of samples of silt/sludge at different depths on 25th, 26th & 27th of December 2020. Besides sample collection done on 16/09/2020, 18/09/2020 & 12/11/2020 (Annexure-14). (Vide Pg.No.130-145)</p> <p>The CPCB has given a report stating that other than the areas where the</p>						

	<p><i>disposal and protocol be determined in accordance with laid down principles under the relevant Rules.</i></p>	<p>heavy metals are found to be managed as per the Hazardous Waste Management rules and the balance silt can be used over the agricultural land.</p> <p>Varthur Lake: On a pilot basis, silt was removed under 4 (G) exemption over an area of 100 acres and stacked in the lake area. Work order was issued on 23.11.2020 to M/s Star Infratech Pvt. Ltd. Silt has been removed over an area of 128 acres for an average depth of 1 metre. The total quantity of silt removed and stacked till 22.02.2021 is approximately 8.75 lakhs cubic metre.</p> <p>The KSPCB has sent a letter dated.12.02.2021 which is received on</p> <p>De-silting of Varthur lake: work order issued on 23.11.2020 to the Agency M/s Star Infra Tech Pvt Ltd.It is submitted that, more soil / silt / sludge samples were collected from the lake bed areas and was analysed. The sediment analysis results based on the screening levels on soil quantity parameters prescribed for agriculture use have been examined by the CPCB and a report is given. Based on the recommendations of CPCB, the KSPCB issued a letter for disposal of the silt for agriculture and other uses. The work of de-silting has commenced by M/s Star Infra Tech Pvt Ltd as per the direction of</p>
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KSPCB/BDA. Further, the BDA claims that approximately in an area of 100 Acres, silt is removed and stocked in the lake area. This work of removal of silt(100 Acres) is carried out under the 4 (G)exemption.

22.02.2021 informing the steps for disposal of the silt in Varthur lake (copy of the letter is enclosed herewith at page no.7). Action is being taken to stack the useful silt on the lake boundary for interested farmers to collect the required quantity till a certain time. Thereafter, it will be transported to the designated place. Photographs enclosed herewith as **Annexure-R-15(Vide Pg.No.146-152)**

De-silting of Bellandur lake: work order issued on 23.11.2020 to M/s RMN Infrastructure Pvt Ltd. Lake bed pre level survey is done, removal of seepage water and others in the Bellandur lake is completed. BDA claims that under 4(G) exemption, an area of 158 Acres(Bellandur lake) silt is removed and stocked at some places inside the lake. The BDA further submits that the stocked silt will be disposed as per the protocol.

Bellandur Lake:

On a pilot basis, silt was removed under 4 (G) exemptions over an area of 158 acres and stacked in the lake area.

Work order was issued on 23.11.2020 to M/s RMN Infrastructure Pvt. Ltd. Silt has been

			<p>removed for an average depth of 1 metre over an area of 65 acres. The total quantity of silt removed and stacked till 22.02.2021 is approximately 9.2 lakhs cubic metre. The stacked and recently removed silt /muck will be disposed of as per the protocol. The letter from KSPCB is awaited. Photographs enclosed herewith as Annexure-R-16 (Vide Pg.No.153-157)</p>
13.	<p>Para 28(xi) Order dated 18.12.2019: <i>The State PCB may develop a robust water quality monitoring program for monitoring of water quality of drains leading to the lakes and</i></p>	<p>The KSPCB has a well-equipped laboratory to analyse the samples in house. Samples are being analysed for pH, BOD, COD, TSS, Ammoniacal Nitrogen, Iron and Manganese, Total Nitrogen, Cyanide, Hexavalent Chromium, Cadmium, Copper, Lead, Nickel, Zinc and Total Chromium at KSPCB's sophisticated Central Laboratory. KSPCB has been advised to undertake water quality monitoring at regular intervals in these lakes and drains (connecting these lakes) and upload (on monthly basis) the water quality information at KSPCB website.</p>	<p>The KSPCB has a well-equipped laboratory to analyze the samples in house. Samples are being analyzed for pH, BOD, COD, TSS, Ammoniacal Nitrogen, Iron and Manganese, Total Nitrogen, Cyanide, Hexavalent Chromium, Cadmium, Copper, Lead, Nickel, Zinc and Total Chromium at</p>

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	<p>also undertake water quality monitoring at least 5 locations for each lake.</p>		<p>KSPCB's sophisticated Central Laboratory, out of which 6 are heavy metals. (Annexure-R-17). (Vide Pg.No.158-188)</p>
14.	<p>Para 28(xii) Order dated 18.12.2019: Steps may be taken to explore development of wetlands and biodiversity parks apart from other remedial action for reducing the pollution load on the recipient water bodies.</p>	<p>Provision is made in the estimate for construction of wetland Bellandur and Varthur lakes. Once the identified wetland area within the lake is de-silted, wetland will be developed.</p> <p>Letter has been received from the ADLR (East) dated.06.11.2020 stating that Government land is not available along the periphery of the lake boundary in buffer zone.</p>	<p>Identified wetland will be developed after de-silting.</p>
15.	<p>Para 28(xiv) Order dated 18.12.2019: Real time water quality system be commissioned by 31.01.2020 as proposed.</p>	<p>The Board has already installed the Real Time Water Quality Monitoring systems at three locations and continuously monitoring. The results are uploaded on the website.</p>	<p>The Board has already installed the Real Time Water Quality Monitoring systems at 3 locations and continuously monitoring. The results are uploaded on the website. (Annexure—R-18). (Vide Pg.No.189-191)</p>

16.	<p>Para 28(xv) Order dated 18.12.2019: <i>The issue of removing 1.5 km road laid upon the lake bed, within the boundary of Varthur lake, by dumping of C&D debris be finalized as per directions of Justice Hegde Committee in terms of para 26 above.</i></p>	<p>The Hon'ble NGT vide order dated 13.08.2020 has held that enquiry should be conducted about the illegality in laying the pipeline by the Minor Irrigation Department. Accordingly, Minor Irrigation department has taken steps as stated in para 21 in this report.</p> <ul style="list-style-type: none"> • Show cause notices were issued to them vide dated. 04.03.2020, giving 15 days' time to submit their replies. The replies submitted by them have been reviewed and found unacceptable. • A proposal will be sent to DPAR for obtaining formal approval for initiating disciplinary proceedings against the concerned retired officer and after approval from DPAR to conduct Departmental Enquiry, action will be initiated as per rule 214(2)(B)(i) and KCSR. • Disciplinary Proceedings has been initiated against the serving official by
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			<p>issuing a Show Cause Notice along with article of charges under rule 12(1)(A) of KCS (CCA)rules dated 05.02.2021 to erring officials who are responsible for the execution of the work. Further, Sri.Venkatesh, Assistant Executive Engineer at Sl. No 04 expired on 04/11/2018.</p>
17.	<p>Para 19(16) of order dated 06.12.2018: <i>Post removal of waste from the Lake and from the Rajakaluves, the State ought to prepare a detailed project report with respect to</i></p>	<p>As regard to removal of waste from the lake area, the desilting work is in progress and once it is completed the left-out waste shall have to be removed. Meanwhile, the BBMP has to prepare a detail project report for the disposal for the same.</p> <p>In regard to removal of waste from the Rajakaluves, the BBMP submits that against approximately 218.0 kms of Rajakaluves(SWD),about 105.149kmsare being maintained. The maintenance includes removal of silt, floating tresses, vegetation and other organics and transported to the Anjanapura abandoned stone quarries. A list of drains of 105.149kms has been provided here as under:</p>	<ul style="list-style-type: none"> • The details of remaining length of drains with encroachments are being surveyed. The help of Karnataka State Remote Sensing Centre has been taken in identifying the details of SWD widths as per revenue maps. The work is in progress.

Sl.N o	Drain No	Drain Name		Length in M
1	MD 342A	Boganahalli	PanatturKere	300
2	MD 425	RamgondanahalliAdarsha Houses	MD 428 @ Chainage 0.00m	100
3	MD 428	VarthurKere	MD 431 @ Chainage 0.00m	200
4	MD 413	PattanduruAgrahara	NalluralliKere	250
5	MD 414	Saibaba Hospital	NalluralliKere	450
6	MD 415	Pioneer Software	NalluralliKere	400
7	MD 416	Nalluralli	NalluralliKere	450
8	MD 349	End Point of MD 322 & MD 334 Near ADA Compound Wall	VarthurKere	400
9	MD 365A	End Point of MD 363 & MD 364	MD 369 @ chainage 0.00	400
10	MD 322	RHB Colony	Garudacharyap alyaKere	150
11	MD 322A	GarudacharyapalyaKere	Mahadevpura Kere	400
12	MD 322C	ITPL Road	Ramakka Layout	100
13	MD 325	Outer Ring Road	Doddanenkundi Kere	300

disposal of the
same.

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14	MD 325A	VinayakaNagara 8th Cross	MD 325 @ Chainage 0.00	500
15	MD 363	Chinnappanahalli Layout	MD 365 @ Chainage 0.00	500
16	MD 369	End Point of MD 365 & MD 368	VarthurKere	500
17	MD 371	Tules CAD/CAM Technology	KundalahalliKere	500
18	MD 372	BEML Layout	Kundalahalli to Siddapura	300
19	MD 374	Tuberahalli BEML Layout	MD 375 @ Chainage 0.00m	230
20	MD 375	End Point of MD 374 & MD 373	SiddapuraKere	450
21	MD 292B	Vijaya Lakshmi Colony via Sai Baba Ashram	DakshinaPinakini River	350
22	MD 292	Patalamma Layout	DakshinaPinakini River via Sidhartha Layout	500
23	MD 292A	Kashi Vishwanatha Temple	Outer Channel of YMC Kere near Railway Culvert	1050
24	MD 294	Alembic Glass	MD 388 @ Chainage 0.00m near Channasandra Circle	1150

37	C-200	Doordarshan, JayamahallExtn, From Palace Grounds, Vasanthnagar	Ulsoor Tank	4150
38	C-100		Wind Tunnel Road	9650
39	C-101	Sudhamnagar	Inside HAL Airport	1875
40	C-102	Sweepers colony, Kadirenepalya	Shastrinagar Joining C-100	1600
41	C-103	Krishnamurthynagar	Kadirenepalya	1600
42	C-104	Kadirenepalya	Kadirenepalya tank	2500
43	C-105	Hanumannagar	Kodihally, Near DomlurFlyover	3000
44	C-106	New Thippasandra	ISRO Complex	650
45	C-107	Kaggadasapura Lake	Kaggadasapura Main Road / Doodanekkundi tank	900
46	C-108	Airport South East Corner	NAL	600
47	C-109	Adj. To Airport Compound	Bellandur Lake	675
48	N4 Drain	Nagammanagar	3rd Cross Domlur	1580
49	-	Domlur AK colony	Natasha Apartment	920
50	C-201	Ganapathy Temple, near Ulsoor Tank	MEG near Ulsoor Tank	250
51	C-202	Richards Town	Gymkhana Club	1170
52	C-203	Sagayapuram	Cleve town	750
53	C-204	Orion Mall, Marutisevanagar	Ulsoor Tank	2000

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54	-	Upper Byrasandra lake - Baghmane Tech Park	Lower Byrasandra Lake - Baghmanetechpark	560	
55	-	Lower Byrasandra Lake - Baghmanetechpark	Kaggadasapura Lake	930	
56	-	KrishnaiahnaPalya	Kaggadasapura Lake	2600	
57	-	Kasturinagar Park	Outer Ring Road	1000	
58	-	Kasurinagar Railway track	Outer Ring Road	600	
59	K-100	K.R.Market	Bellandur Lake	10200	
60	K-200	Sanatorium	Bellandur Lake	7600	
61	K-103	Church Street	via Austin town & Viveknagar joining to K-100	3400	
62	K-104	Jayangara 1st Block	Via Lakkasandra joining to K-100	1700	
63	K-107	Lang ford town	Jalakanteshwarapura	770	
64	K-108	Venkatareddy Layout	Willson Garden	1925	
65	K-109	Kanteerava Stadium	via R.R. Mohan Ray & joining to K-100	2000	
66	K-110	Hosur road	Sudhamanagara	625	

67	K-111	South End road near Jayangara 2nd Block	Lalbgh Tank	950
68	K-112	Parvathi Pura	Kumbargundi	725
69	K-114	Lang ford road	via St Michael's Church & Joining to K-100	1100
70	K-201	Vanaganahalli	Agara Lake	1350
71	K-202	Ellukunte	venkatapura	950
72	K-203	Crompton Greeves Road	Ring Road	1200
73	K-204	Madivala Tank	Hosur Road	705
74	K-205	Mudduram Nagar	Bismillah Nagar	525
75	K-206-	Tayappanahalli	Bovi Colony	1245
76	K-207	Bairsandra Ext	Bannerugatta road	1225
77	K-208	Tilaknagar	Krishnappa Garden	425
78	K-209	J P Nagara 6th Phase	Madiwala Tank	9500
79	K-210	J P Nagara 6th Phase	Joining K-200	1700
TotalLength				105149 meters

It is stated here that the above details are submitted for the first time now hence Committee could not cross verify at the field level.

Further, the State Government is developing RajakaluveK-100 for the length of 11.4 kms from Chikkalalbagh to Bellanduru lake. No Objection Certification was given in compliance with IA No.392/2020 in OA No.125/2017 subject to the conditions. Copy of the said letter dated 24.12.2020 was also submitted to the Hon'ble NGT by the

		<p>Committee. The outcome of the development of this Rajakaluve should be placed before the Hon'ble NGT by the State Government.</p> <p>BBMP is yet to submit the detailed report on the status of the drains (with details of encroachments) and buffer zones</p>											
<p>18. Para 6 of order dated 13.08.2020: <i>Details of amount to be recovered from the operating units without STPs and the stage of proceedings before the State PCB</i></p>	<p>KSPCB has identified 91 units for recovery of Rs.271.50 Crores . The stages of proceedings are as under:-</p> <table border="1" data-bbox="606 459 813 1668"> <tr> <td>No. of units Installed STP</td> <td>42</td> </tr> <tr> <td>No. of units connected to BWSSB</td> <td>06</td> </tr> <tr> <td>No. of units with STP under construction</td> <td>07</td> </tr> <tr> <td>No. of units issued with Closure orders</td> <td>10</td> </tr> <tr> <td>Action yet to be taken</td> <td>26</td> </tr> </table> <p>No recovery is made from the defaulting units.</p>	No. of units Installed STP	42	No. of units connected to BWSSB	06	No. of units with STP under construction	07	No. of units issued with Closure orders	10	Action yet to be taken	26	<p>KSPCB has identified 91 Units for violation of non-installation of STP and assessed Environmental Compensation of Rs 271.50 Crores.</p> <ul style="list-style-type: none"> Out of 91 Units, 42 Units have installed STP, 6 units have connected to BWSSB / UGD and 16 units STP are under construction. Accordingly 55 units are at different stages of compliance and 27 Units have not complied. Closure Orders have been issued for these 27. 	<p style="text-align: right;">50</p>
No. of units Installed STP	42												
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No. of units issued with Closure orders	10												
Action yet to be taken	26												

19.	<p>Para 6 of order dated 13.08.2020: <i>Vacation of interim order passed by the High Court (present status)</i></p>	<p>A WP No. 50953/2019 regarding unauthorised occupation of the Bellanduru lake land (Ambedkar Colony) is pending before the Hon'ble High Court.</p>	<ul style="list-style-type: none"> The Hon'ble High court extended the stay order till the next date of hearing on 13.01.2021. Next Date of hearing is on 08/03/2021. Further action will be taken after vacation of the stay order.
20.	<p>Para 6 of order dated 13.08.2020: <i>The BDA has wrongly understood that biodiversity parks are to be set up within the lake boundary. Such parks are to be set up along the periphery of the lake boundary. (Possibility of such Biodiversity parks).</i></p>	<p>The BDA submits that no Bio-Diversity parks are developed within the periphery of the lake after Hon'ble NGT observations. The BDA submits that Government land is not available along the periphery of the lake boundary in buffer zone.</p> <p>BDA submit that Contour Survey is being done for both the lakes to demarcate the area between maximum flood levels and the lake periphery. So, identified/demarcated area which is beyond the maximum water level where water does not reach to lake periphery, such area may be developed as Bio-diversity parks without compromising total water holding capacity of lake and only on approval from competent Authority.</p> <p>Alternative land for disposal of silt or/and formation of Bio-diversity park in being explored near Defence land abutting to the Bellandur lake and also other open land available with Defence establishment within Bangalore city. Negotiation with Defence authorities are in progress. If it materialises, further action will be taken by following the protocol of disposal as per Rules.</p>	<ul style="list-style-type: none"> Setting up of Bio-diversity park in both the lakes within the area available between boundary of lake and Full Tank Level (FTL) is being explored. Proposal submitted to Karnataka Tank Conservation Development Authority (KTCDA) for their opinion which will be submitted to Hon'ble NGT for consideration.

			<ul style="list-style-type: none"> The Full Tank Level will be maintained through the arrangement of sluice gates at Bellandur and Varthur lake. 																												
21.	<p>Para 6 of order dated 13.08.2020: <i>Enquiry should be conducted about the illegality in laying the pipeline by the Minor Irrigation Department (Present status).</i></p>	<p>The Additional Chief Secretary, Urban development Department, has submitted the following details in regard to action initiated against the officials in the subject matter.</p> <table border="1" data-bbox="635 504 1204 1594"> <thead> <tr> <th>SL No</th> <th>Name of the Erring Official</th> <th>Designation</th> <th>Period</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Devaraj B</td> <td>Chief Engineer</td> <td>23-09-2015 to 31-08-2017</td> </tr> <tr> <td>2.</td> <td>M Ravindrappa</td> <td>Superintending Engineer</td> <td>26-06-2014 to 18-11-2019</td> </tr> <tr> <td>3.</td> <td>S N Krishnappa</td> <td>Executive Engineer</td> <td>11-06-2015 to 27-08-2018</td> </tr> <tr> <td>4.</td> <td>Venkatesh</td> <td>Assistant Executive Engineer</td> <td>27-03-2017 to 04-11-2018</td> </tr> <tr> <td>5.</td> <td>Lakshmu</td> <td>Assistant Executive Engineer</td> <td>18-07-2016 to 26-03-2017</td> </tr> <tr> <td>6.</td> <td>Ashok H Bhagi</td> <td>Assistant Engineer</td> <td>07-12-2016 to 22-07-2019</td> </tr> </tbody> </table> <p>Officers who have worked in the specified period have been identified and show cause notices were issued to them vide dtd. 04.03.2020, giving 15 days' time to submit their replies. The replies submitted by them have been reviewed and found unacceptable. Further at Sl. No 04 Shri Venkatesh, Assistant Executive Engineer expired on 04/11/2018.</p>	SL No	Name of the Erring Official	Designation	Period	1.	Devaraj B	Chief Engineer	23-09-2015 to 31-08-2017	2.	M Ravindrappa	Superintending Engineer	26-06-2014 to 18-11-2019	3.	S N Krishnappa	Executive Engineer	11-06-2015 to 27-08-2018	4.	Venkatesh	Assistant Executive Engineer	27-03-2017 to 04-11-2018	5.	Lakshmu	Assistant Executive Engineer	18-07-2016 to 26-03-2017	6.	Ashok H Bhagi	Assistant Engineer	07-12-2016 to 22-07-2019	<p style="text-align: right;">42</p>
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6.	Ashok H Bhagi	Assistant Engineer	07-12-2016 to 22-07-2019																												

		<p>The Additional Chief Secretary submits that a proposal will be sent to DPAR for obtaining formal approval for initiating disciplinary proceedings against the concerned retired officers and after getting approval from DPAR to conduct department enquiry action will be initiated as per rule 214 (2)(B)(i) and (ii) of KCSR.</p>	
22.	<p>Para 6 of order dated 13.08.2020: Construction of retaining wall should not result in reduction of width of the water bodies/Rajakaluves.</p>	<p>The BBMP submits that the Construction of retaining wallsto storm water drains is temporarily suspended in the Bellandur and Varthur catchment areas. To ascertain the actual width of these drains, the help of Cadastral maps is being taken in collaboration of Revenue Department and the Karnataka State Satellite Remotes Sensing Centre. They submit that the exercise will be completed by the end of March 2021. Once these exercises are completed the encroachments shall be identified at field and should be removed. The works of construction of retaining walls should be recommenced accordingly. The excess area outside the retaining walls, tree park should be developed. The BBMP is expected to consider entire lengths of SWDs in the catchment areas.</p>	<ul style="list-style-type: none"> As per the instructions of the monitoring committee, the entire length of SWDs in the Catchment area is taken up for survey.
23.	<p>Para 6 of order dated 13.08.2020: Details of action taken by the BBMP against illegal structures (rajakaluves and 30 meter buffer zone around the</p>	<p>The BBMP submits a detail of the encroachment removed in Mahadevapura Zone of the catchment of these lakes which were identified in the past. The details are as under:-</p>	<p>It is submitted that the regard to in regard to the encroachments pertaining to Bellandur lake, Out of 22 encroachments, 18 cases are pending in KAT and</p> 

Sl. No	Zone	Total encroachments Identified in each Zone	Details of the encroachments removed by doing survey in the year 2016-17	Details of the encroachments removed/resolved by doing survey in the year 2018-19 onwards	Balance Encroachments to be removed as on 24.12.2020
1	Mahadevapura	1101	98	864	139
1a	Mahadevapura-New	45	0	0	45
	TOTAL	1146	98	864	184

Further, BBMP submits that, following Writ Petitions in the matter of encroachment are filed and pending before the Hon'ble High Court.

Sl.n	Writ Petition Number	Number of cases
0		
1.	W.P No.27287/2019	3 cases
2.	W.P No.26150/2019 & 26835-26842/19	1 Case
3.	W.P No.29873/19 & 29874-876/19	3 Cases
4.	W.P No.30399-30414/2019	45 Cases
	Total	52 Cases

The details of encroachments of other zones for the catchment of Varthur, Bellanduru and Agram have not been submitted by the BBMP.

The BBMP further submits that 30 meter buffer zone have been demarcated all along the outer boundary of Bellanduru lake with the help of Additional Director of Land Records. In the 30 meter buffer zone of Bellanduru lake, 22 unauthorised structures have been

Hon'ble High court and City Civil Court. The remaining four encroachments will be removed by 15.03.2021.

It is further submitted that along the periphery of the Bellanduru lake. The remaining 23 poles and 40 LED lights and 11 CC TV Camera installation works will be completed before 15.04.2021.



identified. The process up to demolition order, has been completed. Against the demolition order 13 persons have appealed before the Karnataka Administrative Tribunal; one Writ Petition has been filed in the High Court; 4 persons have gone to the City Civil Court. Action has to be initiated against the remaining 4 persons.

It is further submitted that along the periphery of the Bellanduru lake 177 mild steel tubular poles and 160 LED lights have been installed and commissioned. 23 poles and 40 LED lights are yet to be installed. As regard to CCTV cameras, 51 numbers have been installed and functioning and 11 numbers are yet to be installed.

Further, 30-meter buffer zone has been demarcated along the outer boundary of Varthur lake with the help of Additional Director of Land Records. In this buffer zone, 12 unauthorised structures have been identified. The process up to demolition orders has been completed. Against the demolition order, one person has appealed before the Karnataka Administrative Tribunal; one structure has been demolished and remaining 10 structures are yet to be demolished.

It is further submitted that along the periphery of the Varthur lake, 184 poles and 143 LED lights have been installed and commissioned. 16 poles and 57 LED lights are yet to be completed. As regard to CCTV cameras, 24 numbers have been installed and functioning and 26 numbers are yet to be installed.

Regarding encroachments pertaining to Varthur lake, out of 12 encroachments, 1 case is pending in KAT and 1 demolition is completed. The remaining 10 encroachments will be removed within 15.03.2021.

Along the periphery of the Varthur lake, the remaining 16 poles and 57 LED lights and 26 CCTV camera installation works will be completed before 15.04.2021.

24.	<p>Para 6 of order dated 13.08.2020:</p> <p><i>BBMP should and the rajakaluves for purposes of buffer zones of 50, 25 and 15 meters</i></p>	<p>The Storm water drains are classified into the Primary, Secondary and Tertiary SWDs with the buffer zones of 50, 25 and 15 meters respectively on certain technical parameters.</p> <p>The details of length in each category have not been submitted by the BBMP. The Committee has convened several meetings in this regard but no satisfactory desired results are achieved.</p> <p>To ascertain the actual width of these drains and encroachments, the help of Cadastral maps is being taken in collaboration of Revenue Department and the Karnataka State Satellite Remotes Sensing Centre. They submit that the exercise will be completed by the end of March 2021. Once this exercise is completed, the further action of demarcating of encroachments at field should be done and to be removed. The BBMP is expected to consider entire lengths of SWDs in the catchment areas.</p>	<p>As per the instructions of the Monitoring Committee, the entire length of SWDs in the Catchment area is undertaken for survey.</p>
25.	<p>Para 8 of order dated 13.08.2020:</p> <p><i>We have given due consideration to the rival opinions. We are of the view that some more sampling may be got carried out with regard to de-silted debris/sludge at</i></p>	<p>More silt sampling in both lakes have been carried out jointly (by CPCB and KSPCB) and analysed for essential parameters including heavy metals. The standard protocol for assessing the hazardous (if any) is being followed through TCLP (Toxicity characteristic leaching procedure) and STLC (Soluble Threshold Limit Concentration) investigations of soil samples in Varthur and Bellandur Lakes.</p> <p>Based on this, CPCB has given a report for Varthur lake. As per the protocol based on TCLP and STLC analyses, the soil is non-hazardous and hence permission is accorded to BDA by KSPCB to dispose silt, based on the local demand</p> <p>As regards to Bellandur Lake, the analysis of sediment samples for leachability tests is under progress and is expected to be completed early. Based on the test results CPCB, will submit a report suggesting silt disposal mechanism.</p>	<p>Comments from the CPCB with regard to disposal Protocol is awaited.</p> <p style="text-align: right;">46</p>

<p>appropriate representative locations for comprehensive database there-after disposal protocol may be finalized in consultation with the CPCB. This will avoid unnecessary delay and cost (action taken in this regard by KSPCB for sample analysis)</p>		
--	--	--

White

(Rakesh Singh)

Additional Chief Secretary to Government
Urban Development Department.

This is the Annexure... R... stated in the
Affidavit of... O A 125/2017



NOTARY

47

ANNEXURE- R-1

**5 MILD STP AT
SARAKKI**

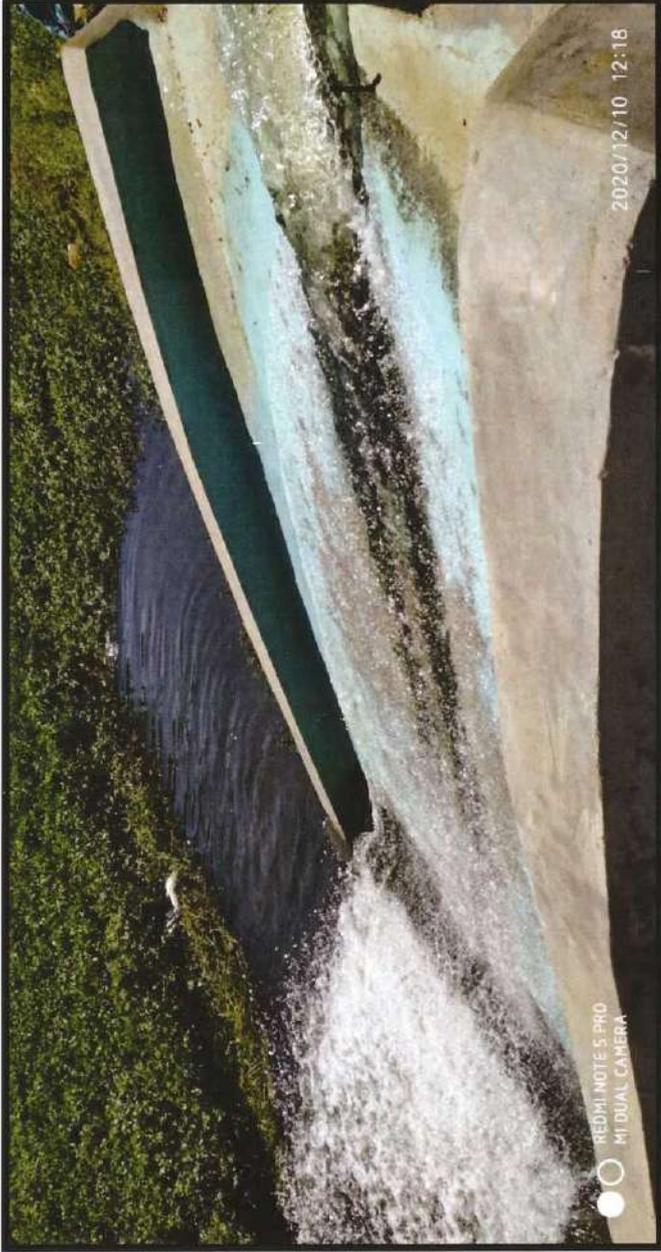
5 MLD STP SARAKKI



Arial View

49

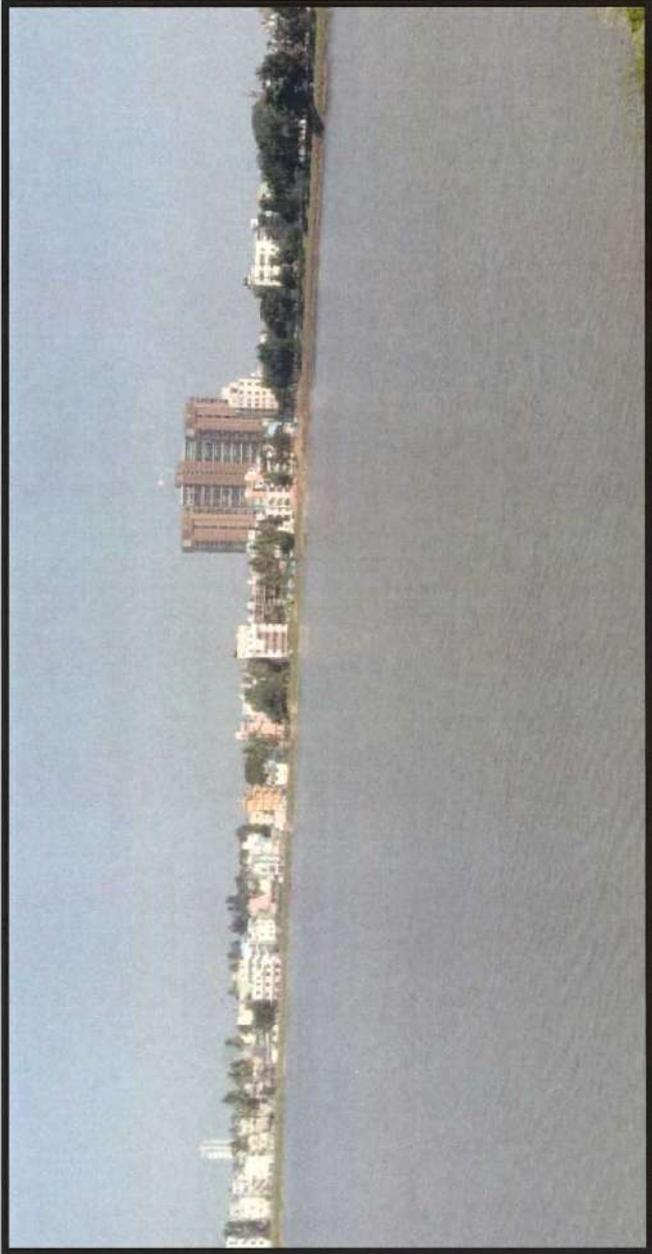
5 MLD STP SARAKKI



Treated Sewage Water outlet

50

Sarakki Lake

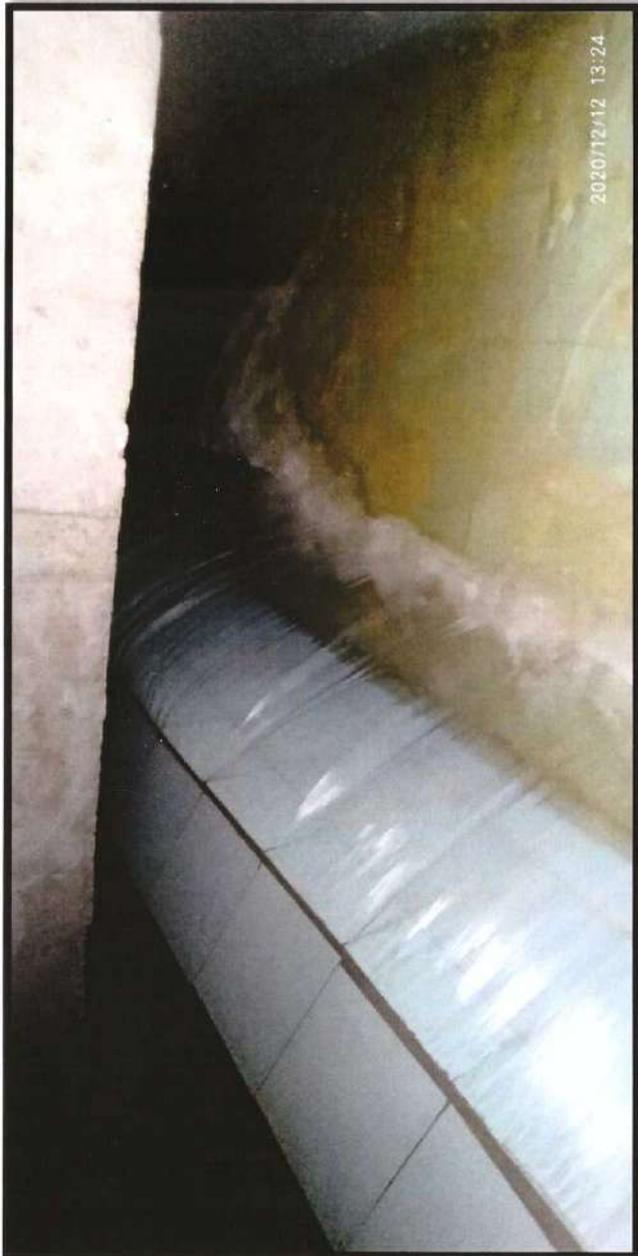


51

**ANNEXURE-R-2
5 MLD STP AT CHIKKA BEGUR**



SMLD STP CHIKKABEGUR



Treated Sewage Water outlet



5MLD STP CHIKKABEGUR



SLN TESTING LABORATORY



NABL/ISO 9001 : 2015/OHSAS Certified Laboratory
 # 15, 1st Floor, P. O. Box No. 10, Pipeline Road, Laggere, Bangalore - 560 058.
 Mob : 9844086182, 983886098, E-mail : slntestinglaboratory@gmail.com, Web : www.slntests.com

Page No. 1 of 1

TEST REPORT

Report No : SLN/IL200110080 A	Report Date: 12/11/2020
Issued To: M/s. The Executive Engineer STP (K. Valley) division, RW/SSB, Bangalore.	Customer Reference: Verbal
Sample Collected at: 5 MLD, STP Chikkabegur Lake	Date of Receipt: 07/11/2020
	Date of test start: 07/11/2020
	Date of Completion of test: 07/11/2020
	Sample Particulars: STP Inlet Water

Sl. No	Parameters	Test Method	Units	Results
01	pH Value	IS:3025/Part-11	---	6.77
02	Total Suspended Solids	IS:3025/Part-17	mg/L	329.0
03	Biochemical Oxygen Demand (5days @20°C)	IS:3025/Part-44	mg/L	342.0
04	Chemical Oxygen Demand	IS:3025/Part-58	mg/L	430.0
05	Total Kjeldhal Nitrogen	IS:3025/Part-34	mg/L	49.6
06	Total Phosphorus as P	IS:3025/Part-35	mg/L	8.0
07	Total Coliform Count	IS 1622-1981	MPN/100ml	>1600

*****End of the Report*****

Authorized Signatory

Note : 1. The results listed pertain only to the tested samples and applicable parameters.
 2. Samples will be destroyed after 35 days from the date of test unless otherwise specified and retained for retest.
 3. This report is not to be reproduced either wholly or in part and can not be used as evidence in the court of law.
 4. Sampling not done by us, unless specified.

54

TEST REPORT

Report No : SLNTL20010080 B Issued To: M/s. The Executive Engineer STP (K. Valley) division, BWSSB, Bengaluru. Sample Collected at: E MLD, STP Chikkabegur Lake	Report Date: 12/11/2020 Customer Reference: Verbal Date of Receipt: 07/11/2020 Date of test start: 07/11/2020 Date of Completion of test: 12/11/2020 Sample Particulars: STP Outlet Water
--	--

Sl. No	Parameters	Test Method	Units	Results	Standard
01	pH Value	IS:3025/Part-11	---	7.15	6.5 - 9.0
02	Total Suspended Solids	IS:3025/Part-17	mg/L	6.5	10 Max
03	Biochemical Oxygen Demand (5days @20°C)	IS:3025/Part-44	mg/L	5.6	10 Max
04	Chemical Oxygen Demand	IS:3025/Part-58	mg/L	28.8	50 Max
05	Ammonical Nitrogen	IS:3025/Part-34	mg/L	<1.0	5 Max
06	Total Nitrogen	IS:3025/Part-34	mg/L	6.0	10 Max
07	Total Phosphorus as P	IS:3025/Part-35	mg/L	0.2	2 Max
08	Fecal Coliform	IS 1622-1981	MPN/100ml	21	100 Max

*****End of the Report*****

Authorized Signatory

Note : 1. The results listed pertain only to the tested samples and applicable parameters.
 2. Samples will be destroyed after 30 days from the date of issue of test certificates unless & otherwise specified and returned to the client.
 3. This report is not to be reproduced either wholly or in part and can not be used as evidence in the court of law.
 4. Sampling media should be used in any advertising media without prior written permission.
 5. Sampling methods by IS, unless specified.

/s/

**ANNEXURE-R-3
10 MLD STP AT HULIMAVU**



SBR BASIN-I

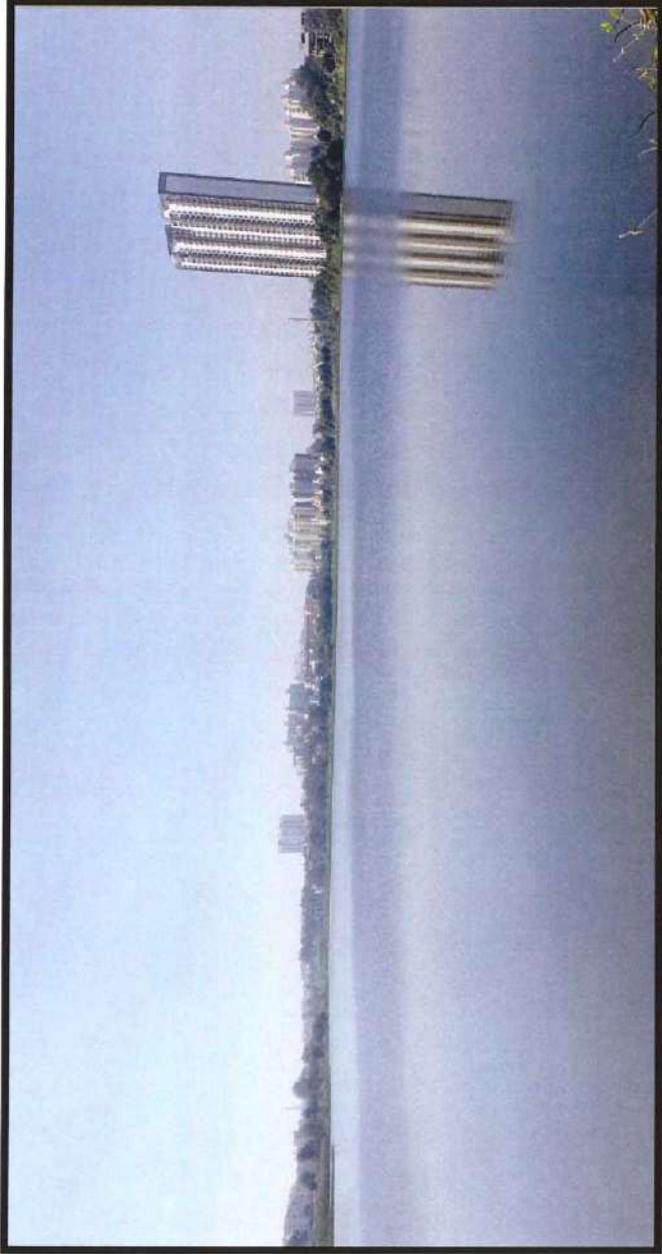
HULIMAVU 10MLD



Treated Sewage Water outlet

Handwritten signature or initials in blue ink.

HULIMAVU LAKE



Handwritten signature or initials in blue ink.

59

HULIMAVU 10MLD

GAD **GENERAL ANALYTICAL LABORATORY**
 ESTD: 1977
 Analysis of Industrial Effluent, Water, Air and Noise Pollution, Light Illumination
 ISO/IEC 17025-2005 Accredited Laboratory - NABL
 Lab. 080-2334 0365
 Off. 080-2334 0382

TEST REPORT
 Report No: GAL/IR/SRF/20201107
 Report Date: 18/11/2020
ANALYSIS REPORT OF STP-OULET WATER
 M/S. SN Enviro-Tech Pvt Ltd-Enrotek Environmental Pvt Ltd-JV
 Plot No. 11, STP, BAVES-B, Hulimavu Lake, Bengaluru-560076
 Name of the Company
 Plant Address
 Sample Description
 Sample Received On
 Sample Received Date
 Analysis Completed Date
 Sample ID

Analytical Result

Sl. NO	Parameters	Protocol	Units	Results	Standards
1	pH Value	IS 3023 (Part 11)		8.3	6.5 - 9.0
2	COD	IS 3023 (Part 38)	mg/l	42.0	<50
3	BOD (5 days at 20°C)	IS 3023 (Part 44)	mg/l	5.0	<10
4	Total Suspended Solids	IS 3025 (Part 17)	mg/l	4.7	<10
5	Total Dissolved Solids	IS 3025 (Part 17)	mg/l	5.7	<10
6	Total Nitrogen**	IS 3028 (Part 34)	mg/l	6.3	<10
7	PO4 as P	IS 3028 (Part 31)	mg/l	<0.5	<1
8	Oil and Greases	IS 3025 (Part 35)	mg/l	NH	<5
9	Lead	IS 3025 (Part 35)	mg/l	<10	<100

Note 1. **Indicates parameter is not under NABL scope.
 2. NH-Not Detected.

End of the Report

Analysed By
 Address

Verified By

202011101037
 Accredited Laboratory

HULIMAVU 10MLD



GGAL
ESTD: 1977

GENERAL ANALYTICAL LABORATORY
Analysis of Industrial Effluent, Water, Air and Noise Pollution, Light Illumination
ISO/IEC 17025-2005 Accredited Laboratory - NABL
CIN: 090-2334-0396
CIT: 090-2334-0396

Report No: GAI/ENR/2020/107
Report Date: 18/11/2020

TEST REPORT

ANALYSIS REPORT OF STEINLET WATER

Name of the Company: **M/S. S.N. Enviro-Tech Pvt Ltd-Envirotek Environmental Pvt Ltd-JV**
 Address: **Plot No. 10, Phase II, B.V.55B, Hulimavu Lake Bengaluru-560076**
 Sample Description: **STP Effluent Water**
 Sample Constituents: **Ground**
 Sampling Date: **09/11/2020**
 Analysis Started Date: **09/11/2020**
 Analysis Completed Date: **20/11/2020**

Report No: GAI/ENR/2020/107
 Report Date: 18/11/2020

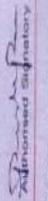
Analytical Results

Sl. No	Parameters	Process	Units	Results	Standards
1	pH Value	IS 10253 (Part 1)	nc	9.2	6.5-8.5
2	CO ₂ (mg/l)	IS 10253 (Part 1)	mg/l	26	25-35
3	CO ₂ (mg/l)	IS 10253 (Part 1)	mg/l	406.0	10000
4	BOC ₅ (5 days at 20°C)	IS 10253 (Part 1)	mg/l	70.0	350
5	Total Organic Carbon	IS 10253 (Part 1)	mg/l	23.5	20
6	Total Soluble Nitrogen	IS 30253 (Part 3)	mg/l	11.7	40
7	Ammonical Nitrogen	IS 30253 (Part 3)	mg/l	28.0	60
8	Total Phosphate	IS 30253 (Part 3)	mg/l	3.2	7
9	Total Phosphate	IS 30253 (Part 3)	mg/l	0.60	0.20

Note 1:- Indicates parameter is not under NABL scope.

Analysed By: 

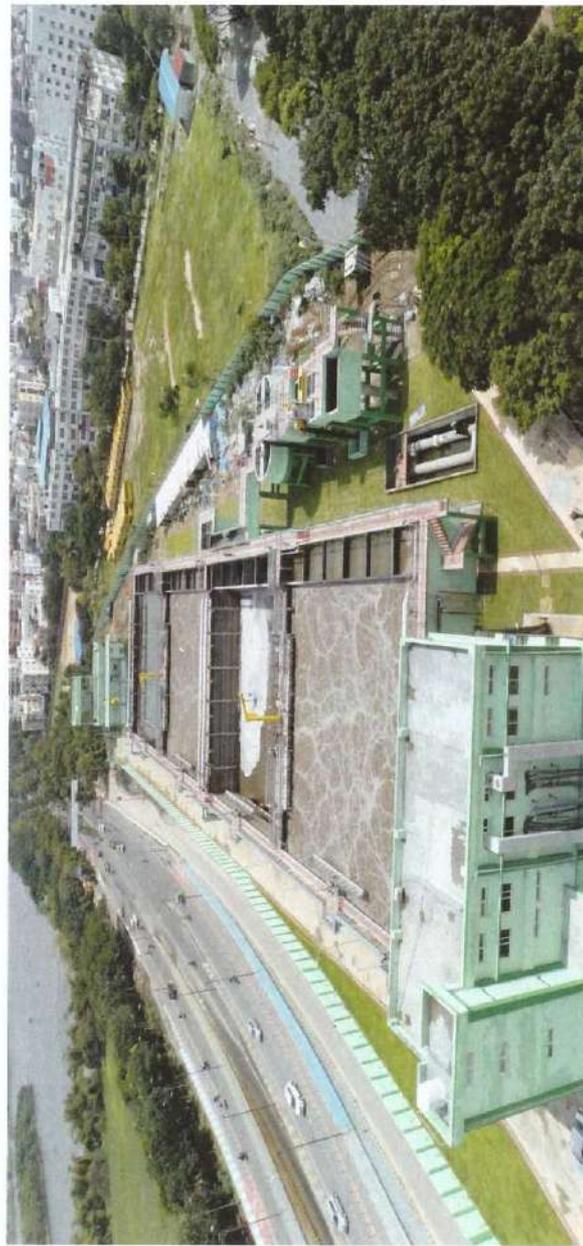
Address: **# 10/17th Cross, 13th Main Road,
Kalyaneshwari, BENGALURU - 560 005**

Verified By: 

E-mail: lakshgowda@nabl.com
 Web Site: www.generalanalytical.com

End of the Report

ANNEXURE – R-4
35 MLD STP AT AGARAM



Arial View

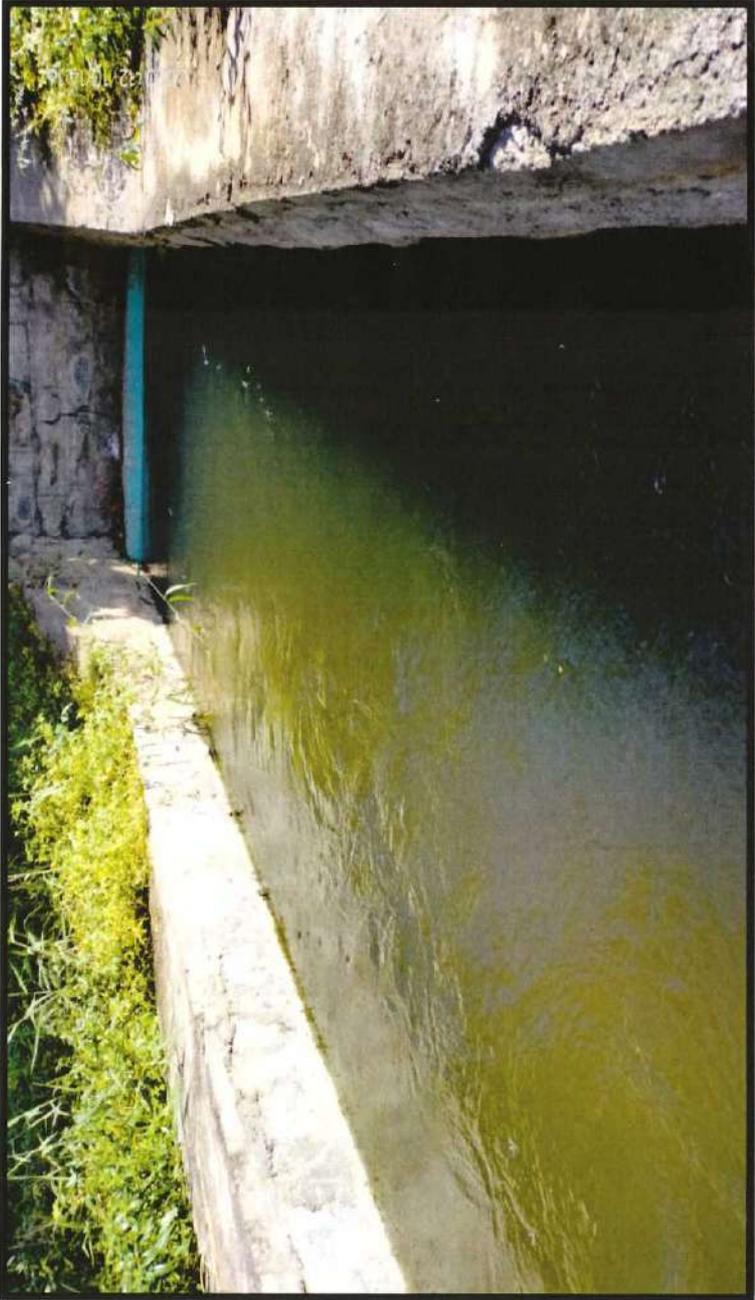
63

35 MLD STP AGARA

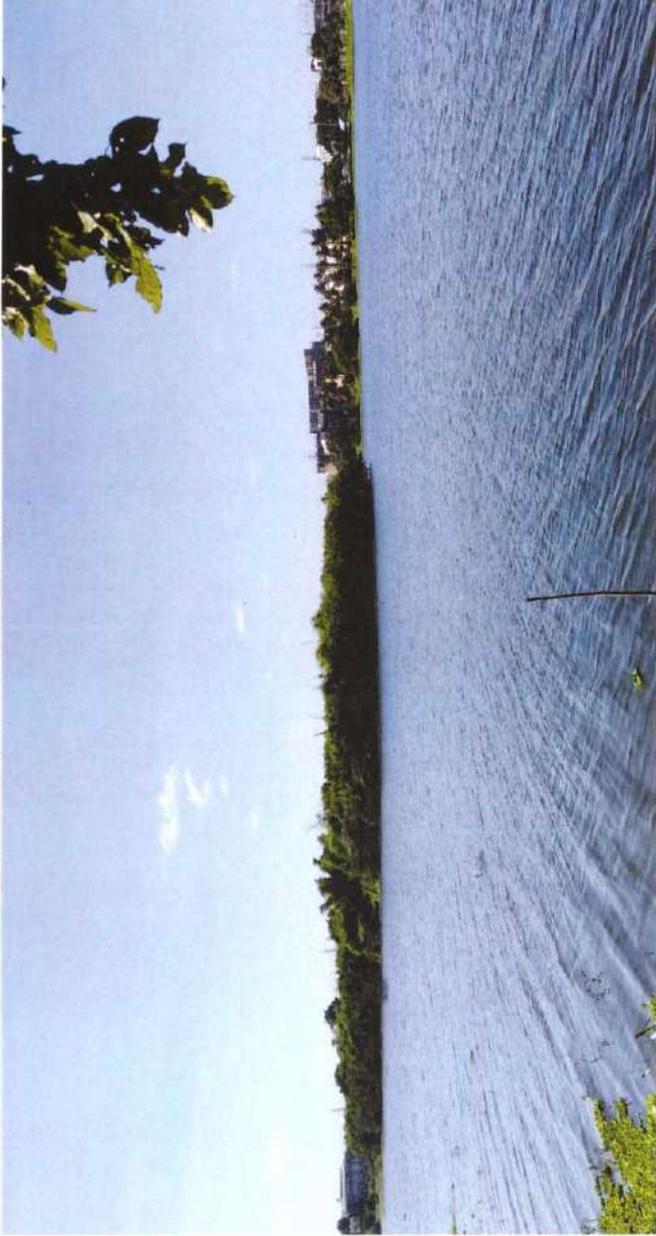


Treated Sewage Water outlet

↳



AGARA LAKE



35 MLD STP AGARA



SLN TESTING LABORATORY
ISO 9001:2015 / ISO 14001:2015 / OHSAS 18001:2007 Certified Laboratory
 250 Old Bangalore Road, Bangalore - 560 086
 Mob: 9844086162, 9824888088, E-mail: info@slntestinglab.com, Web: www.slntestinglab.com



TEST REPORT

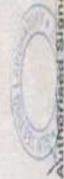
Report No: SLN/TL/2001/0078 A
 Client: Engineer
 STP (K. Valley) division, BWSSB,
 Bangalore.

Report Date: 12/11/2020
 Date of Sample: 11/11/2020
 Date of Receipt: 07/11/2020
 Date of test start: 07/11/2020
 Date of Completion of test: 12/11/2020
 Sample Particulars: STP Inlet Water

Page No: 1 of 1

Sl. No	Parameters	Test Method	Units	Results
01	pH Value	IS:3025/part-11		6.75
02	Total Suspended Solids	IS:3025/part-17	mg/L	286.0
03	Biochemical Oxygen Demand	IS:3025/part-44	mg/L	82.0
04	Chemical Oxygen Demand	IS:3025/part-58	mg/L	248.0
05	Total Kjeldahl Nitrogen	IS:3025/part-34	mg/L	42.6
06	Total Phosphorus as P	IS:3025/part-35	mg/L	7.4
07	Fecal Coliform	IS 1622-1981	NPN/100ml	>1000

*****End of the Report*****



Authorized Signatory

Note: 1. The results listed pertain only to the tested samples and applicable parameters.
 2. Samples will be deteriorated after 15 days from the date of issue of test certificate unless otherwise specified and
 3. This report is valid only for the purpose specified and is not valid for any other use without the written permission of the
 4. Sampling not done by the address specified.

Scanned with CamScanner



35 MLD STP AGARA


SLN TESTING LABORATORY
 NABL/ISO 9001 : 2015/2015:AS Certified Laboratory
 # 15, 1st Floor, Preminagar, Pipeline Road, Laggere, Bangalore - 560 058.
 Mob. : 9844066102, 9538888098, E-mail : slntestinglaboratory@gmail.com, Web : www.slntests.com

TEST REPORT
 Report No : SLNTL200110078 B
 Issued To : M/s. The Executive Engineer
 STP (K. Valley) division, BWS&B,
 Bengaluru.
 Report Date: 12/11/2020
 Customer Reference: Verbal
 Date of Receipt: 07/11/2020
 Date of Test Part: 07/11/2020
 Date of Report: 12/11/2020
 Sample Particulars: STP Outlet Water

Sl. No	Parameters	Test Method	Units	Results	Standard
01	pH Value	IS:3025/Part-11		7.05	6.5 - 9.0
02	Total Suspended Solids	IS:3025/Part-17	mg/L	6.2	10 Max
03	Biochemical Oxygen Demand (5days @20°C)	IS:3025/Part-44	mg/L	5.4	10 Max
04	Chemical Oxygen Demand	IS:3025/Part-58	mg/L	28.0	50 Max
05	Ammonical Nitrogen	IS:3025/Part-34	mg/L	-1.0	5 Max
06	Total Nitrogen	IS:3025/Part-34	mg/L	5.0	10 Max
07	Total Phosphorus as P	IS:3025/Part-35	mg/L	0.2	2 Max
08	Fecal Coliform	IS:1622-1981	MPN/100ml	15	100 Max

*****End of the Report*****

Note 1. The results listed herein only to the tested samples and applicable parameters.
 2. All microbiological parameters will be displayed logarithmically, unless otherwise specified and
 3. All microbiological results shall be based on data representing average without other written notification.
 4. Sampling not done by us, unless specified.

Authorised Signatory


Scanned with CamScanner

68

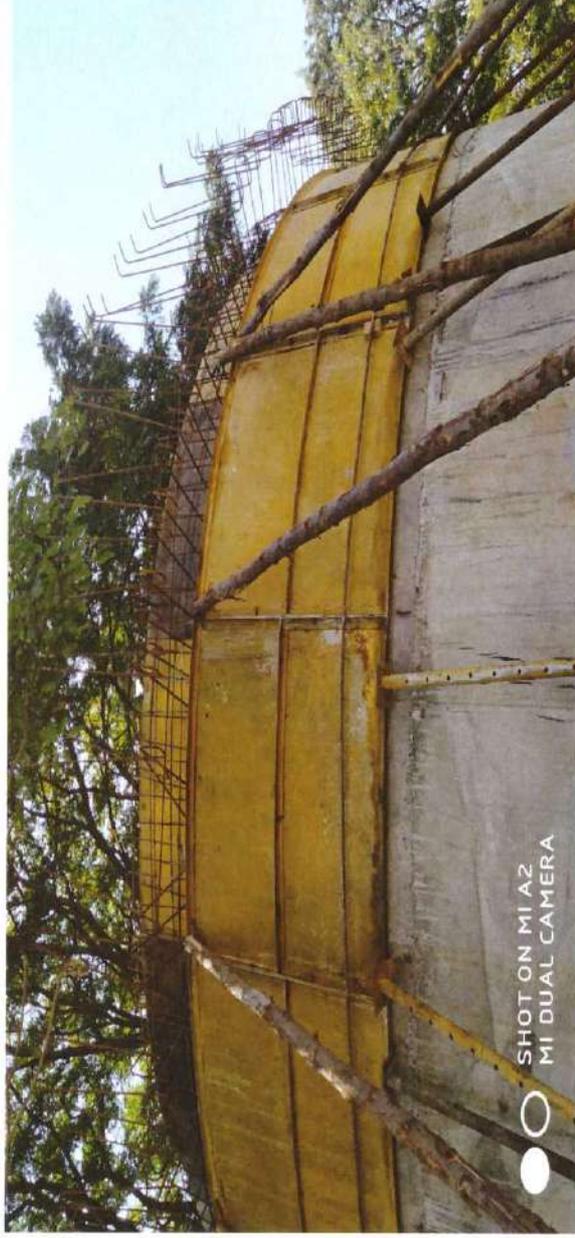
ANNEXURE – R-5

4 MLD STP at MADIVALA



29

4 MLD STP at MADIVALA



4 MLD STP at MADIVALA



CR



SBR Raft Slab Steel Reinforcement in progress

ANNEXURE – R-6

150 MLD STP AT K&C VALLEY



Intake of sewage has been taken on 31.12.2020 and primary treatment is in progress

7

150 MLD STP K&C Valley



Intake of sewage has been taken on 31.12.2020 and primary treatment is in progress

150 MLD STP K&C Valley



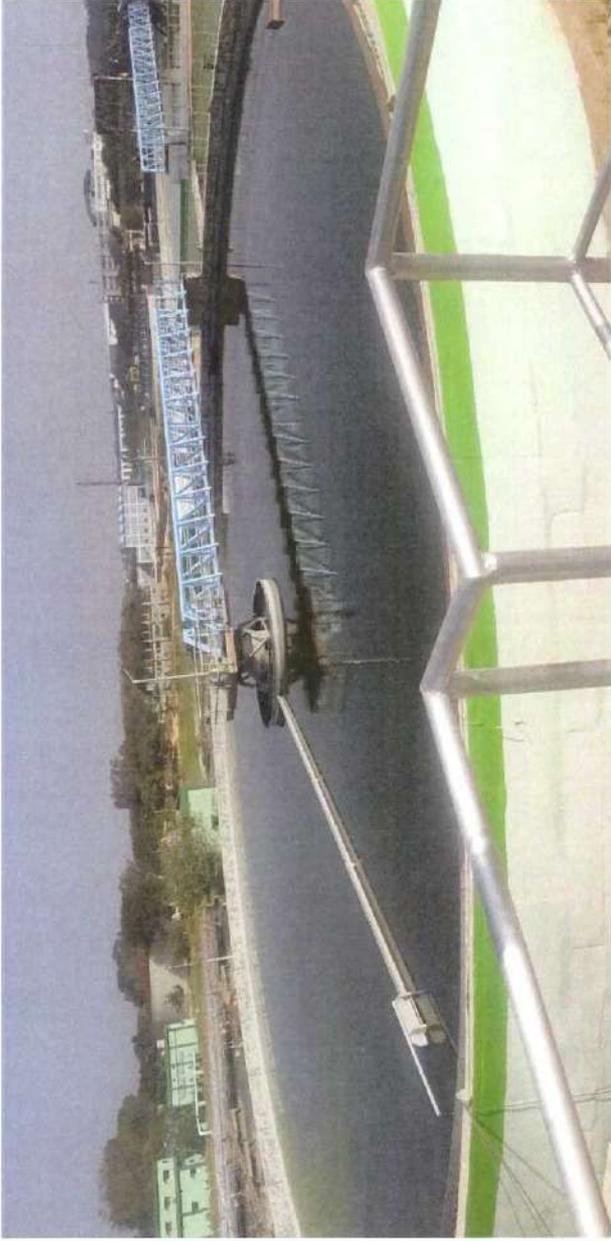
Intake of sewage has been taken on 31.12.2020 and primary treatment is in progress

23



Inlet Medium Screen and Fine Screen

150 MLD STP K&C Valley



Primary Clarifier-A

25

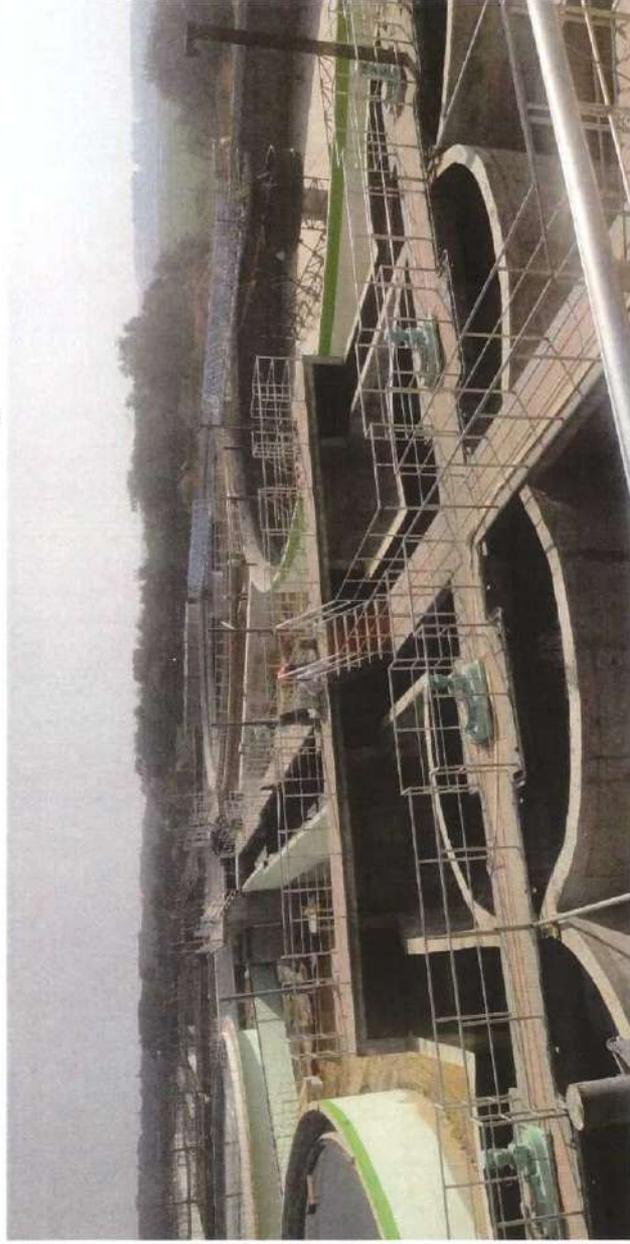
150 MLD STP K&C Valley



Vortex Grit and Partial Flume

7/20

150 MLD STP K&C Valley



Vortex Grit and Partial Flume

29

150 MLD STP K&C Valley



Primary Clarifier Distribution Chamber and Outlet Channel

150 MLD STP K&C Valley



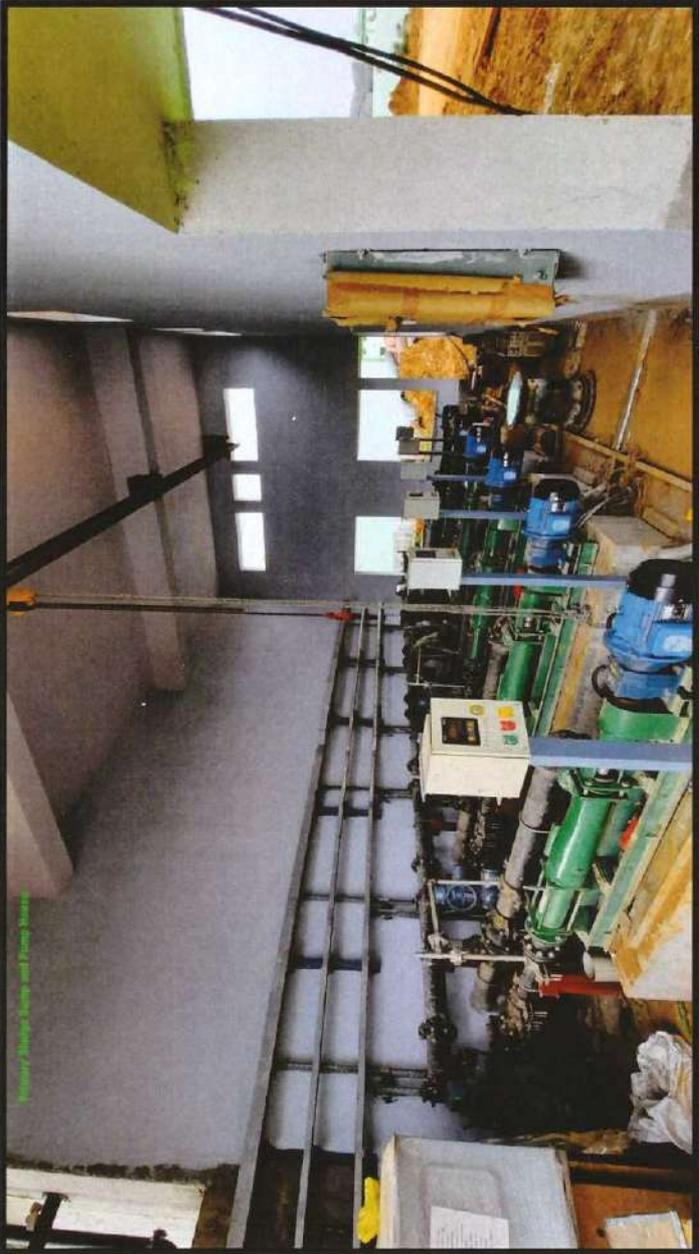
Administration Building

20

150 MLD STP K&C Valley



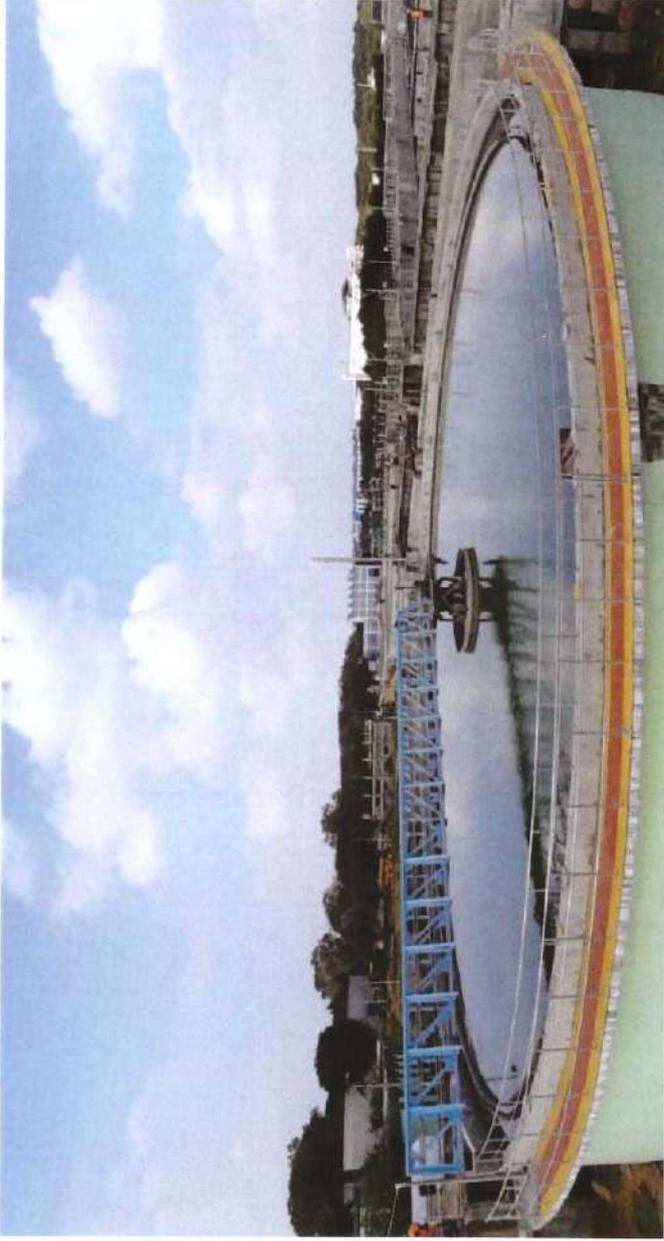
Inspection by Hon 'ble NGT Monitoring Committee



81



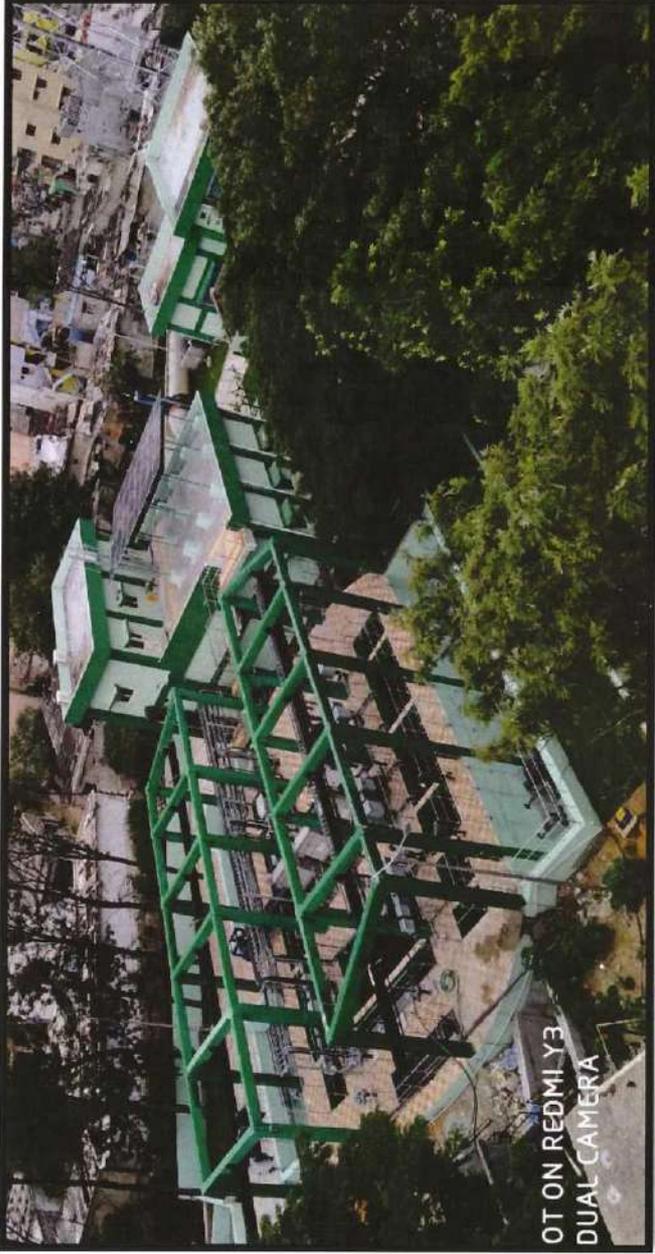
150 MLD STP K&C Valley



Primary Clarifier-B

87

ANNEXURE – R-7
210 MLD ISPS at NGV
Package S2D(b)



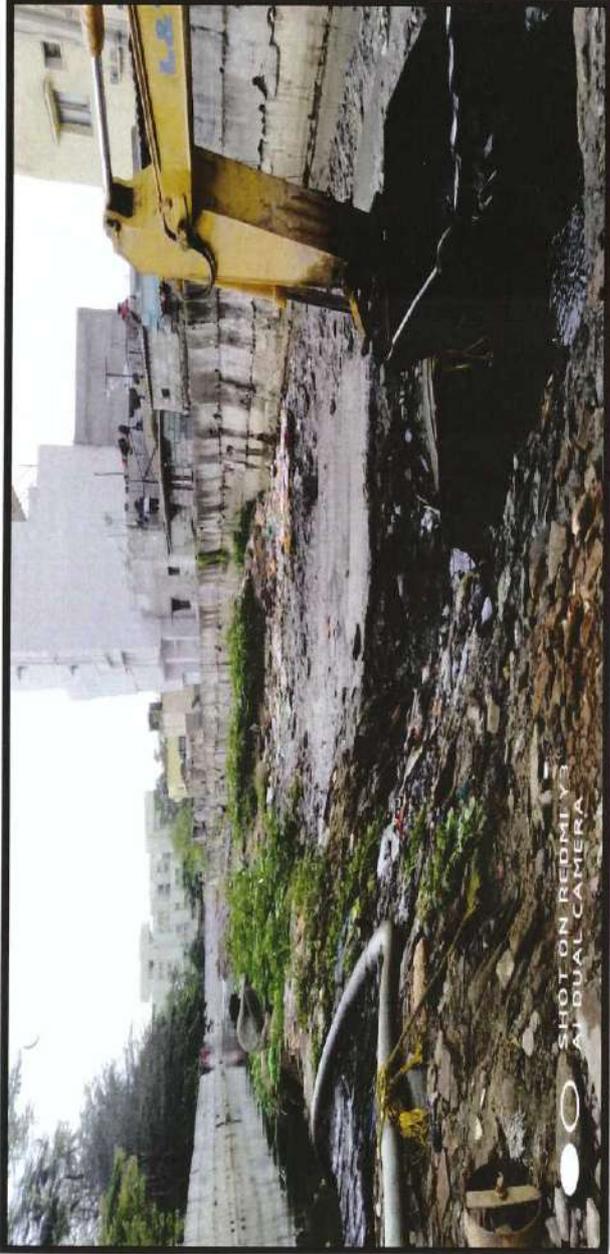
ARIAL VIEW OF 210 MLD ISPS AT KORAMANGALA

Package S2D(b)



Transformer Yard

85



Dewatering under progress due to heavy rain at NGV

68



No pipeline laid in Storm Water Drain due to heavy Rain

88

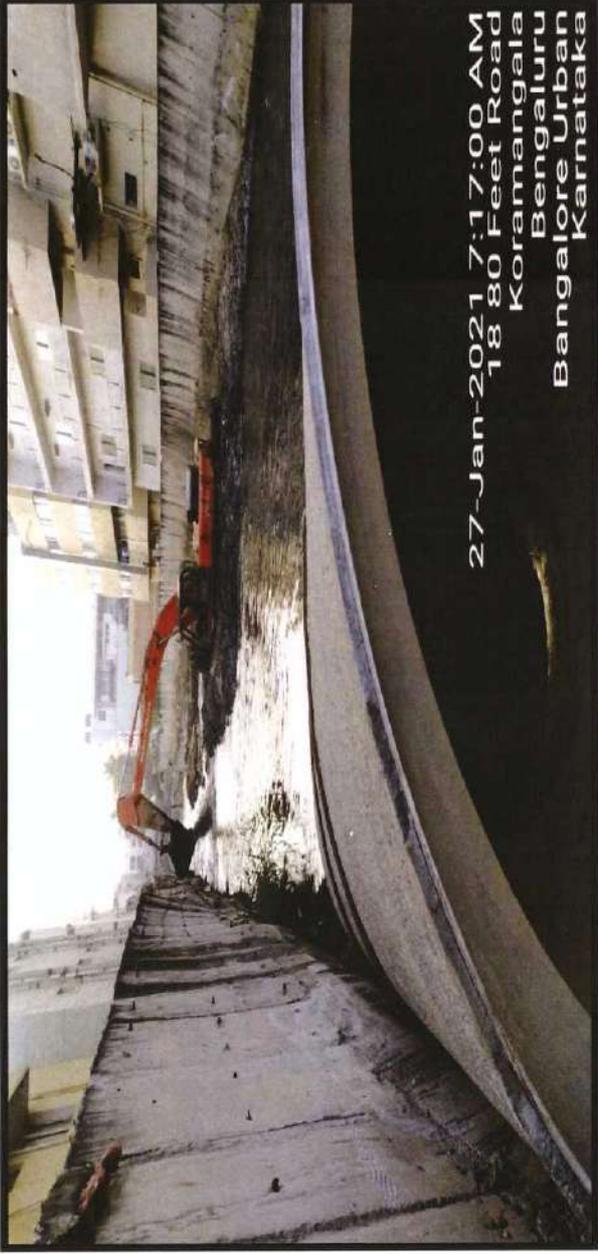


Dewatering under progress due to heavy rain at NGV

89

Package S2D (a)

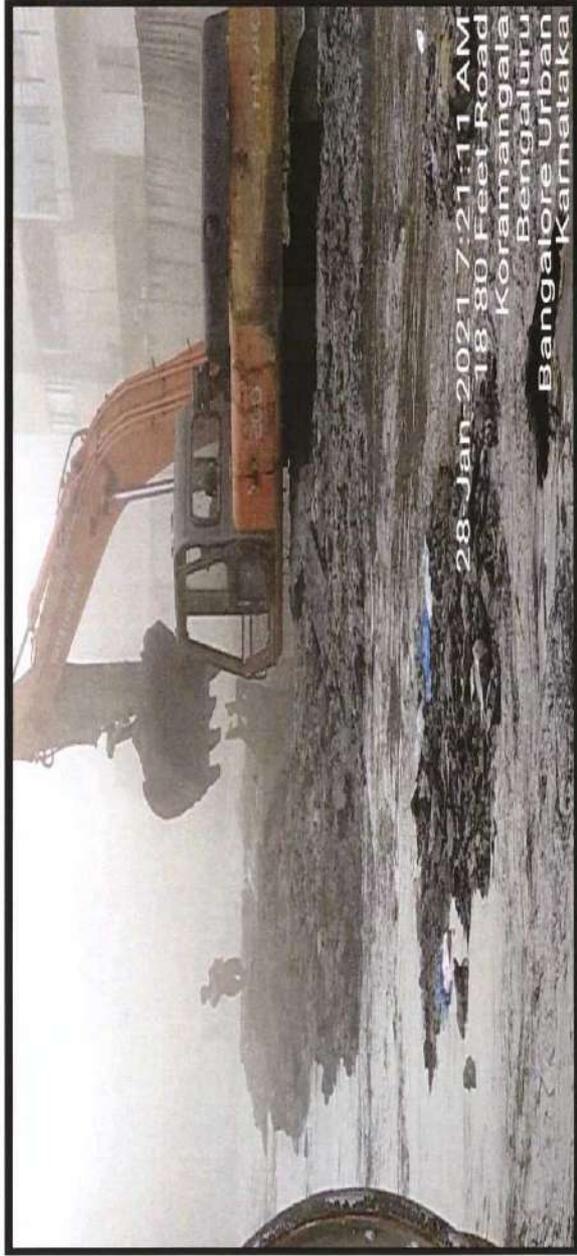
Work of Pumping main from Koramangala sports complex ISPS to K&C valley STP.



90

Package S2D (a)

Work of Pumping main from Koramangala sports complex ISPS to K&C valley STP.



91

Pumping Main

Work of pumping main from Koramangala sports complex ISPS to K&C Valley STP under AMRUT- Package S2D(a)

Programme for Completion of Balance works

SNo	Description	Unit	Scope	Starts on 15th July 2022	Balance p/a	Aug 20	Sep 20	Oct 20	Nov 20	Dec 20	Jan 21	Feb 21	Mar 21
1	Laying of 1825mm dia RCP pipeline	Rm	5315.00	5975.00	1367.00	46.00	46.04	125.28	200.11	274.85	275.00	275.00	275.00

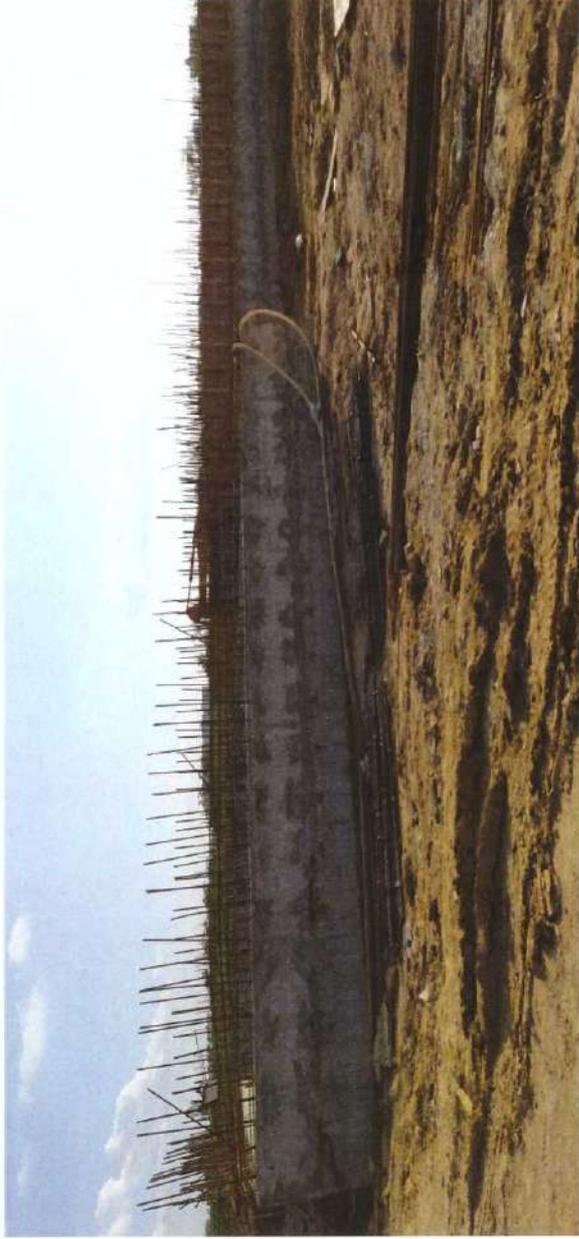
2.1
 Executive Engineer
 (WWS) K&T Division, BWSSE
 2nd Floor, Kapila Bhavan
 4th 'T' Block, Jayanagar,
 Bangalore - 560047

ANNEXURE – R-9

32.5 MLD ISPS at Munekolalu

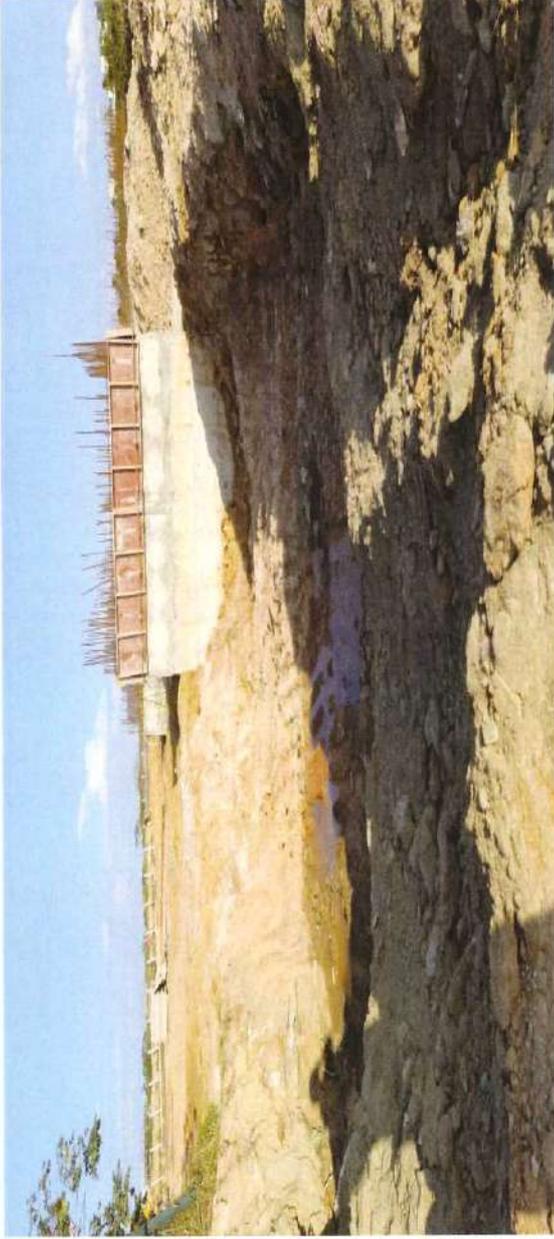


AS



Earth filled around the wet well & Receiving chamber

32.5 MLD ISPS at Munekolalu



Earth work for inlet pipeline near Receiving chamber

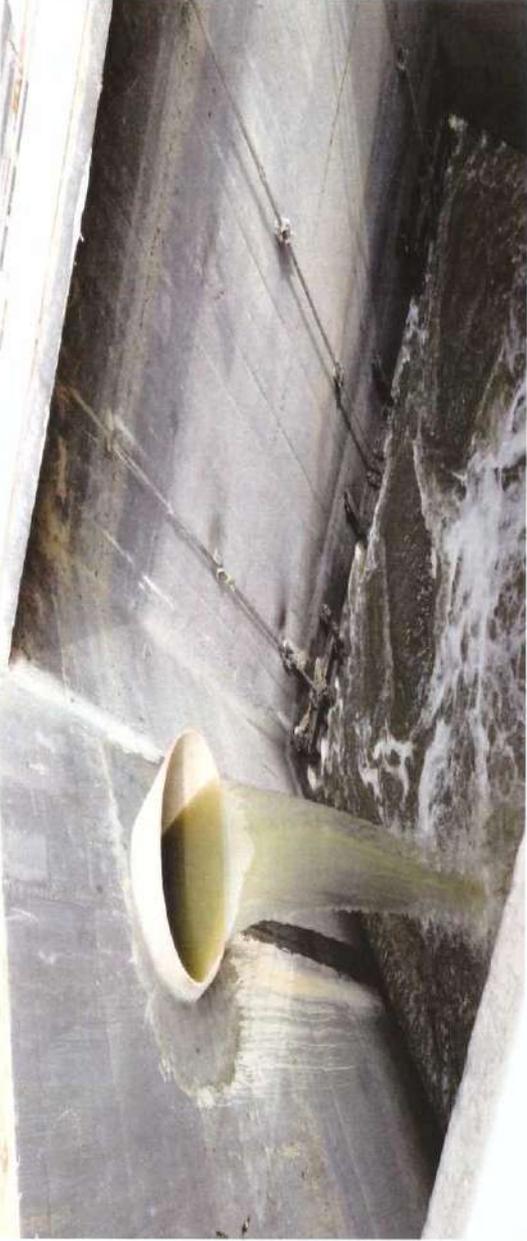
A handwritten signature in blue ink, consisting of stylized, cursive letters.

32.5 MLD ISPS at Munekolalu



Alternative arrangement is made for sewage pumping to man hole

32.5 MLD ISPS at Munekolalu



sewage pumping through 800mm dia DI line to inlet of 90 MLD STP

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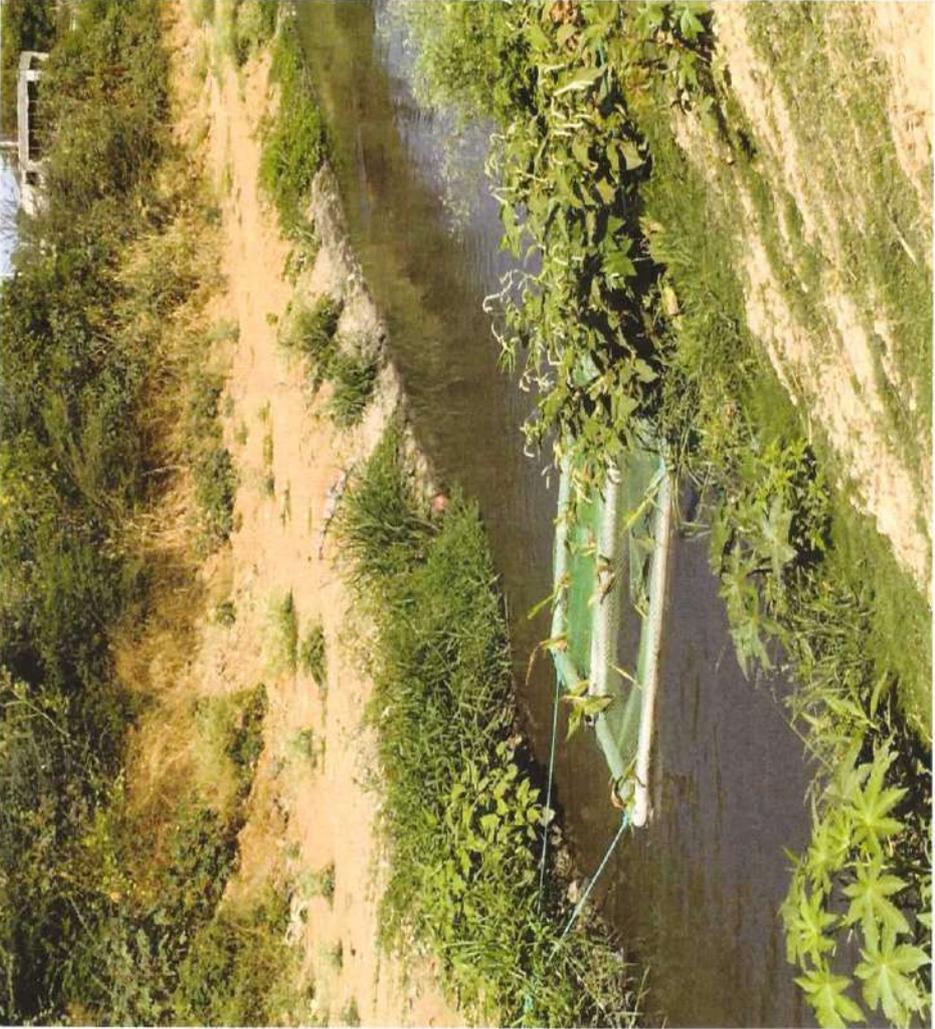
ANNEXURE – R-10

**INSTALLING OF REMIDATION TO DRAIN WATER FLOWING IN HAL NALA WITH ARTIFICIAL FLOATING ISLAND
PLANTED WITH CANNAN INDICA PLANT.**



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**INSTALLING OF REMIDATION TO DRAIN WATER FLOWING IN HAL NALA WITH ARTIFICIAL FLOATING ISLAND
PLANTED WITH CANNAN INDICA PLANT.**





**INSTALLING OF REMIDATION WITH FLOATING ELEMENTS WITH CANNAN INDICA PLANT TO DRAIN WATER FLOW
AT IBBULURU SOUTHERN SIDE OF BELLANDURU LAKE**





ANNEXURE-R-11

Report pertaining to Present Scenario after completion of Action Plan works pertaining to BWSSB in respect of restoration of Bellandur, Varthur and Agara Lakes

Preamble:

In the Action Plan submitted to Hon'ble NGT on 27.04.2019, in respect of restoration of Bellandur, Varthur and Agara Lakes the following submissions are made.

A. Construction of STP's,

- a. 5 MLD STP at Sarakki.
- b. 35 MLD STP at Agaram
- c. 5 MLD STP at Chikkabegur
- d. 10 MLD STP at Hulimavu
- e. Upgradation of existing 1.5 MLD TTP at Cubbon Park to 4 MLD capacity
- f. 150 MLD STP at K&C Valley under construction
- g. 4 MLD STP at Madivala which is under upgradation

B. Conveyance of the sewage generated in the catchment area to respective STP's to reduce the flow of untreated sewage in Storm

Water Drain

In this regard, it was submitted that BWSSB would take-up interconnection works in the major inlets to Bellandur Lakewhich are as follows:

1. Koramangala storm water drain
2. Agaram storm water drain
3. HAL storm water drain

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4. Iblur storm water drain
5. Kempapura storm water drain
6. Munekolalu storm water drain

Present Status:

A. Construction of STP's,

Basically these works were envisaged to create facilities for treatment of the sewage generated in the catchment area, out of the 7 STP's which were proposed 5 STP's have been completed and treated effluent from these STP's are allowed to fill the downstream lakes. Minor Irrigation department has proposed to transmit the excess treated effluent (excess after fulfilling the requirements of lakes of Bangalore) from these STP's to fill lakes in their jurisdictions.

The work of construction of 150 MLD STP at K&C Valley is in its advanced stage, as submitted to the NGT Committee in the report the facilities for augmenting the sewage as been completed and intake of sewage has been taken on 31.12.2020 and primary treatment is in progress. Further, to comply with the commitment for completion by 31.03.2021. Action will be taken to commission the balance line of treatment in a phased manner to achieve the target.

In respect of 4 MLD STP at Madiwala, it is to submit that this STP was constructed during 1998 based on UASB process, this was not functioning to the updated effluent parameters level and hence upgradation of this STP was taken up by Karnataka Lake Conservation and Development Authority with funds from KSPCB. Due to poor progress on this work has been handed over to BWSSB during 2019, from then onwards BWSSB has taken up upgradation of this STP the overall progress as on 22.02.2021 is 33.00 % against the planned target of 100.00%. Due to COVID-19 conditions there is delay in this work. and same will be completed by December 2021. However, it is ensured that during this rehabilitation work the sewage which was earlier augmented to this STP is now diverted to Agarm ISPS by linking this network to ISPS through 900mm dia sewer link line. At present there is no sewage entry into the Madiwala lake.

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B. Laying of 1800 mm dia raising main from 210 MLD ISPS to 150 MLD STP

The scope of work involved with Providing & Laying of PCCP pipe line of 1800mm dia with necessary Knife Gate Valve, Scour Valves and Air Valves for a length of 5315 Rmt (Excluding bends and trench technology). As on 22.02.2021 the progress achieved on the above work is 5295 Rmt .This work will be commissioned on or before 31st March 2021.

- 1) The progress is delay due to permissions for laying of pipe line in Defence land.
- 2) Protest from ST bed road area residents for laying of pipe line in that road, resulted to change of alignment of about 2.3Km from road to inside storm water drain (SWD).
- 3) Covid-19 pandemic.
- 4) Extended monsoon.

C. Conveyance of the sewage generated in the catchment area to respective STP's to reduce the flow of untreated sewage in Storm Water Drain

As per directions of the Committee headed by Hon'ble Sri N. Santhosh Hegde, the measurement of the actual flow in each of the Nallahs/Drains leading to Bellandur lake were measured and a report was submitted during May 2019.The total sewage generated in the catchment area of Agaram,Bellandur and Varthur is 583 MLD. On the date of measurement, the following quantum of sewage was treated in the various STP's which were functioning on that date,

Sl. No.	Location	Average Measured Flow in MLD
1	218 MLD plant	170
2	60 MLD plant	22
3	30 MLD plant	26
4	90 MLD plant	30
Total		248

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Thus, the sewage flowing in the storm water drain on the date of measurement was 335 MLD (583-248). Subsequently as proposed in the action plan the BWSSB had planned to link the sewage lines to the STPs to increase the flow and to utilize the plants to its designed capacities. To stop the sewage entering the above mentioned three lakes BWSSB has taken up and completed 71 linking works. After completion of 150 MLD plant it is possible to arrest about 92% of waste water directly flowing to these three lakes following works were envisaged to augment the sewage flowing in the SWD to STPs and the status of presently treated quantity is as follows:

Sl No.	Treatment Plant	Capacity in MLD	Flow Measurements as on April 2019 in MLD	Presently treated quantity in MLD	Difference augmented to STP in MLD	Remarks
1	K&C Valley	218	170	194	24	
2	K&C Valley	30	26	30	4	
3	K&C Valley	60	22	60	38	
4	Bellanduru Amanikhane	90	30	90	60	
5	Kadabeesanahalli	50	42	45	3	
6	Halasuru	2	1.50	1.50	0	
7	Lalbagh	1.50	1.50	1.50	0	
8	Cubbon Park	4	1.50	2	0.5	
9	Madiwala	4	0	0	0	The overall progress as on 22.02.2021 is 33.00% as against 100% and the work will be completed by December 2021. However, it is ensured that during this rehabilitation work the sewage which was earlier augmented to this STP is now diverted to Agarm

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								ISPS by linking this network to ISPS through 900mm dia sewer link line. At present there is no sewage entry into the Madivala lake.
10	Sarakki	5	0	4.50	4.5			
11	Hulimavu	10	0	5	5			
12	Chikka Begur	5	0	2	2			
13	Agaram	35	0	18	18			
14	K&C Valley (STP under Construction)	150	0	0	0			The overall progress as on 22.02.2021 is 91% as against the Target of 100% and the commitment for completion by 31.03.2021 and about 83 MLD sewage will be augmented.
	Total	664.5	294.5	453.5	159			

The combined treatment capacity of the above plants will be 664.50 MLD against a measured flow of 583 MLD. Presently 453.50 MLD of sewage is being treated and 83 MLD will be augmented to new 150 MLD STP at K&C Valley which is under construction and will be completed by March-2021. The total treated sewage will be 536.50 MLD (92%) by the end of 1st week of March 2021 as against the measured flow of 583 MLD.

Conclusion

In this regard, it is to submit that even after completion of the action plan about 47 MLD (583-536) of sewage will be flowing in SWD, which is mainly from,

About 23 MLD flow from 110 villages area where in BWSSB has taken up the works of creating sewer networks along with facilities for treatment. This can also be augmented after completion of the JICA 5th stage works. At present laying of laterals is under progress, the submains, trunk mains and STPs are under tendering stage in JICA 5th stage works which were planned to complete by 2024.

Further it is not possible to arrest the balance 24MLD about 8% of waste water entering the lake due to site constraints and non-availability of buffer zones for carrying out the routine desilting works of the sewer lines which are running in the SWDs. **In most of the buffer zones the buildings have been constructed and it is not possible to deploy sewer cleaning machines for carrying out the routine cleaning of such sewer lines.**

The sewers which were laid inside the SWDs in Challagatta major valley is for a length of about 19.22kms and in Kormangala/Tavrekere valley is for a length of 31.15kms. The total length of sewer lines of both the valleys in SWD is 50.37kms (in Chalagatta valley JC Nagara Main Road - 1.25km, M.M Road - 0.65km, Armstrong Road - 0.35 km, Hazart kambal Rosh Road - 0.30km, Rajiv Gandhi Colony - 0.40km, Bhaskaran Road - 5.3 km, Old Airport Road - 1km, Dinabhandu Nagara - 0.90km, Banasawadi Main Road - 1km, Pai Layout - 1.20km, Kaggadasapura - 0.50km, 5th Cross Malleshpalya - 1.10km, Outer Ring Road Mahadevapura - 1.57km, Pragathi Layout - 0.70 km, Yamalur - 1.50km, Devasandra - 1.50 km the total length is 19.22kms. In Koramangala & Tavrekere valley Adarsha Garden - 1km Sarakki Market - 1.6km, 24th Main JP Nagar - 1.3km Chunhagatta - 1.80km, Byrasandra - 0.90km Bannerhatta Road - 1.3km, Gurapanpalya - 2km, Maduramma Colony - 1km, Brundhavana Nagara - 6km Marenahalli - 1.5 km, Begur - 2km, Belekahalli - 3.20 km, Vivek Nagar - 2km Neelasandra - 1km, Anepalya - 2km, Wilson Garden - 0.40 km Vinayakanagara - 0.40 km, KH Road - 0.80km, JC Road - 0.45km, Brigade Road - 0.50km and the total length

is 31.15 kms. The Grand total of Kormangala and Challagatta valley is 50.37kms). In view of difficulties and practical problems and more site constraints and in such places the competent authority shall have to provide any alternative land for carrying out the works of shifting of sewer lines on either sides of the drains in the buffer zones. In this regard as per the directions of the Chairman BWSSB a meeting has been conducted on the subject of shifting of sewer lines from the Storm Water Drains on 27-08-2010. In this meeting the Engineers of BWSSB, BBMP, BDA and Consultants were present. After due deliberations the meeting concluded with the following decisions.

- Scientifically it is better to keep the sewers out of the Storm water drains.
- In old areas of Bangalore city, (core area) the shifting of the sewers out of the storm water drains will have many technical and practical problems and is not sustainable to shift.
- The problems need to be highlighted to Chairman BWSSB, Commissioner BBMP/BDA before it is brought to the notice of Hon'ble Minister for BWSSB. (Meeting Proceedings enclosed)

In all these locations due to encroachments and non availability of space on either sides of the SWD it is not possible to shift the sewer lines from SWDs. Thus, it is essential for the competent authorities to provide proper space on either sides of SWD to maintain the sewerlines and to lay the sewer lines outside the SWD to arrest the sewage flowing in SWDs to the sewer network. However it is ensured that to minimize the remaining flow of sewage entering in to the lake, temporary arrangements like Interception and Diversion method will be adopted for taking sewage in to the STP's in a phased manner.

Sd/-
Chief Engineer (WWM)
BWSSB

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ANNEXURE-R-12

ಫೋನ್ / Fax : 080-25586321
 ಇಮೇಲ್ / Email : ho@kspcb.gov.in
 ವೆಬ್‌ಸೈಟ್ / Website : http://kspcb.gov.in



080-25581383, 25589112
 080-25589113, 25589114

ಕರ್ನಾಟಕ ರಾಜ್ಯ ಮಾಲಿನ್ಯ ನಿಯಂತ್ರಣ ಮಂಡಳಿ

Karnataka State Pollution Control Board

"ಪೊಲಿಟಿಕ್ಸ್", 1st floor, 49, Church Street, Bangalore - 560 001, ಕರ್ನಾಟಕ ರಾಜ್ಯ, ಭಾರತ
 "Pansara Bhavan", 1st to 5th Floor, # 49, Church Street, Bangalore - 560 001, Karnataka State, India

NO.KSPCB/SEO-INFRA/MoEF&CC/2020-21/ 3873 Date: 09 DEC 2020

ರವಿಚಂದ್ರಪ್ಪ

To

Dr. Susan George K.,
 Scientist 'D',
 Ministry of Env., Forest and Climate Change,
 Indira Paryavaran Bhawan,
 Jor Bagh, New Delhi-110 003.

Sir,

Sub: Issual of Notification wrt Phosphate Content in Soaps and Detergents--
 Reg

Ref: 1 Hon'ble Supreme Court orders dated: 7/5/2018 in respect of Civil
 appeal Directions No. 42031 of 2017

2. Your affidavit submitted to Hon'ble NGT in respect of OA 125/2017 on
 26/11/2019

3. Revised Standards issued by the Bureau of Indian Standards in August
 2020 with respect to the limitation of Phosphorus content in the detergents (IS
 4955:2020,IS 8180:2020,IS 9458:2020)

With reference to the above cited subject and references, it is to be informed
 that Honourable NGT in its OA No 125/2017 had directed to bring down the
 Phosphorous content in the detergent powders, bars both in household, laundry
 usage and in synthetic detergents. The BIS have notified the revised Standards and
 the details of the same are shown below.

Requirement for Household Laundry Detergent Powders (IS 4955: 2020):

Characteristics	(Clauses 5.6, 7.2.1 7.2.2, 7.3.1 and 8.1)		
	Grade 1	Grade 2	Grade 3
Total phosphates expressed as P ₂ O ₅ content percent by mass, Max (see Note 1 and 2)	2.5	2.5	2.5
Note:			
1. Total phosphate content including phosphate based builder ⁽¹⁾ (as recommended in Annex A) shall not exceed 2.5 percent by mass for grade I, grade II and grade III.			

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2 Use of Zeolite (see IS 15267) as an alternative to phosphate based builder is recommended.

Requirement for Household Laundry Detergent Bars (IS 8180: 2020):
(Clauses 5.4, 7.3.1 and 8.1)

Characteristics	Grade 1	Grade 2	Grade 3	Grade 4
Total phosphates expressed as P ₂ O ₅ content percent by mass, Max (See Note 1 and 2)	5.0	8.0	5.0	5.0

Note:
1 Total phosphate content including phosphate based builder (as recommended in Annex A) shall not exceed 5.0 percent by mass for grade I, grade III & grade IV and 10 percent by mass for grade II.
2 Use of Zeolite (see IS 15267) as an alternative to phosphate based builder is recommended.

Requirement for Synthetic Detergents for Washing Woolen and Silk Fabrics (IS 3456: 2020):
(Clauses 4.5 and 7.1)

Characteristics	Requirement
Total phosphates content expressed as STPP, calculated from phosphorus pentoxide, percent by mass, Max (please See note 1)	Nil

Note:
1 Use of natural builder such as Zeolite (see IS 15267) is recommended.

Hence, you are hereby requested to issue an Official Notification as per the affidavit vide ref (2) to implement the above standards across the Country.

In this regard Karnataka State Pollution Control Board has issued a public notice through the print media which is attached here with and the same is also put up in our website.

Thanking You

draft approved by Member Secretary

Yours Faithfully

Sd/-
Member Secretary
KSPCB, Bengaluru.

21/09/24

Copy to:

1. Deputy Director General of Forests (C),
Ministry of Env., Forest and Climate Change,
Regional Office (SZ), Kendriya Sadan,
4th Floor, E&F Wings, 17th Main Road,
Koramangala II Block, Bangalore - 560034
2. Central Pollution Control Board
'Parivesh Bhawan', East Ajuh Nagar,
Shahdara, Delhi-110032
3. Central Pollution Control Board, Zonal Office,
1st & 2nd Floors, Nisarga Bhawan, A-Block,
Thimmaiah Main Road, Basaveshwara Nagar,
Bangalore - 560076

Office Copy



Syed Khaja Mohiddin,
Senior Environmental Officer,
KSPCB, Bengaluru.

11/11/2024

BEFORE THE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH AT NEW DELHI
I.A. No. _____ of 2020

IN
IA 269 of 2020
IN

ORIGINAL APPLICATION NO. 125 OF 2017

IN THE MATTER OF:
Court on its own Motion

Versus

State of Karnataka & Ors.

AND IN THE MATTER OF:
Durga Rainbow Flat
Owners Welfare Association

...Applicant

...Respondents

...Applicant

INDEX

S.NO.	PARTICULARS	PAGE NO.
1.	APPLICATION ON BEHALF OF THE IMPEADING APPLICANT FOR AN EARLY HEARING ALONG WITH A SUPPORTING AFFIDAVIT.	



APPLICANT

THROUGH AARNA LAW LLP
NO. 53, SUNDERNAGAR,
NEW DELHI-110005

NEW DELHI
DATED: 20/11/2020

ANNEXURE-R-13

BEFORE THE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH AT NEW DELHI
I.A. No. _____ of 2020

IN

IA 259 of 2020

IN

ORIGINAL APPLICATION NO. 125 OF 2017

IN THE MATTER OF:

Court on its own Motion

...Applicant

Versus

State of Karnataka & Ors.

...Respondents

AND IN THE MATTER OF:

Durga Rainbow Flat

Owners Welfare Association

...Applicant

APPLICATION ON BEHALF OF THE APPLICANT FOR AN EARLY
HEARING OF IA 259 OF 2020 FILED BY THE APPLICANT UNDER
SECTION 151 CPC ALONG WITH A SUPPORTING AFFIDAVIT

MOST RESPECTFULLY SHOWETH:

1. It is stated that the IA 259/2020 was filed by the Applicant on 10-08-2010, and the same is yet to be listed before the Hon'ble Tribunal.
2. It is stated that vide IA 259/2020 the Applicant seeks to implead itself in OA 125/2017 pending before this Hon'ble Tribunal to represent its cause and to obtain the approval on behalf of its residential apartment owners, who are represented by

(Signature)


PRAYER

In view of the above, it is most humbly prayed that this Hon'ble Tribunal may graciously be pleased to:

- a) Fix an early date of hearing in the IA 260/2020 in accordance to the convenience of this Hon'ble Tribunal.
- b) Pass such other and further order (s) necessary in the interest of justice.



APPLICANT

THROUGH

AARNA LAW LLP

NO. 53, SUNDERNAGAR,

NEW DELHI-110002

NEW DELHI

DATED: 30/ Aug 2020

BEFORE THE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH AT NEW DELHI
I.A. No. _____ of 2020

IN
IA 259 of 2020
IN

ORIGINAL APPLICATION NO. 125 OF 2017

IN THE MATTER OF:

Court on its own Motion

...Applicant

Versus

State of Karnataka & Ors.

...Respondents

AND IN THE MATTER OF:

Durga Rainbow Flat

Owners Welfare Association

...Applicant

AFFIDAVIT

I, Bhavin Shah S/o Namchand Shah, aged about 40 residing at Durga Rainbow, No.81/1, 9/1, 9/2 and 9/3, Mahadevapura Village, KR PURAM, Hobli, Bangalore, East Taluk, Bengaluru-560048, solemnly affirm on oath and declare as under:

1. That I am the authorized signatory of the Applicant Association and I am aware of the circumstances leading upto this Application.
2. That the contents of the accompanying application under section 151 CPC have been drafted by my counsel under my instructions and the contents thereof are read over and explained to me in vernacular and I found the same are true and correct and the contents thereof are not being repeated herein for the sake of brevity

[Signature]

 DEPONENT

the unfair actions taken by the Karnataka State Pollution Control Board ("KSPCB") under the pretext of implementing the Orders passed by this Hon'ble Tribunal in the current proceedings. The Applicant is an aggrieved person under section 16 of the National Green Tribunal Act, 2010 and therefore competent to approach this Hon'ble Tribunal and seek implementation.

3. It is stated that the Applicant has already set out in detail the facts and circumstances of the case leading up to the filing of the IA 259/2020 (Implementation Application) and the same are not being repeated herein for the sake of brevity and to avoid repetition. However, the Applicant craves leave of this Hon'ble Tribunal to refer and rely upon the same at the time of hearing of the instant Application.

4. That this Hon'ble Tribunal vide its order dated 04-08-2020 had concluded its hearing of the proceedings in OA 125/2017 and reserved the same for orders and granted the parties to the proceedings an opportunity to file their written submissions. Through the instant Application the Applicant is praying that the IA 259/2020 be listed before the Hon'ble Tribunal at the earliest as it is imperative for the Applicant to be implemented as a party and make its representation before the Hon'ble Tribunal.

5. That the Applicant is a necessary party for a complete and holistic adjudication of the subject matter in OA 125/2017. It is therefore necessary and expedient, in the interest of justice and equity that the IA 259/2020 be listed before Hon'ble Tribunal at the earliest so that the Applicant can put forth its grievances on behalf of its residential apartment owners, who are aggrieved by the unfair actions taken by the KSPCB.



Reddy

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6. That the KSPCB is undertaking action for recovery of sums as per the penalty notices issued to the Applicant and several other similarly placed persons, inspite of the lacuna in the procedure of levying such penalty. The Applicant has adhered to the standards prescribed by the KSPCB by setting up and maintaining an STP in its premises; along with commissioning periodic testing of the treated water through an NABL laboratory (*admittedly recognized by the KSPCB*). However, even after the Applicant produced proof of its functional STP, the penalty notices have been pursued without any consideration to the documents submitted by the Applicant (*and several other similarly placed persons*) without any application of mind.
7. That the Applicant (several other similarly placed persons) constitute a significant section of affected parties in relation to the subject-matter of the present O.A., and therefore must be granted an opportunity to place their submissions on record before this Hon'ble Tribunal at the earliest instance.
8. That under the above-enumerated reasons the Applicant prays for an early hearing in the IA 259/2020 for a speedy disposal of the case.
9. That the principal of natural justice equity and good conscience demands that the matter may be heard earlier as no purpose will be served in keeping the matter pending.
10. That if the present application is not allowed then the Applicant will suffer irreparable loss and injury which cannot be compensated by any means whatsoever.



- 6. That the KSPCB is undertaking action for recovery of sums as per the penalty notices issued to the Applicant and several other similarly placed persons, inspite of the lacuna in the procedure of levying such penalty. The Applicant has adhered to the standards prescribed by the KSPCB by setting up and maintaining an STP in its premises; along with commissioning periodic testing of the treated water through an NABL laboratory (*admittedly recognized by the KSPCB*). However, even after the Applicant produced proof of its functional STP, the penalty notices have been pursued without any consideration to the documents submitted by the Applicant (*and several other similarly placed persons*) without any application of mind.
- 7. That the Applicant (several other similarly placed persons) constitute a significant section of affected parties in relation to the subject-matter of the present OA, and therefore must be granted an opportunity to place their submissions on record before this Hon'ble Tribunal at the earliest instance.
- 8. That under the above-enumerated reasons the Applicant prays for an early hearing in the IA 259/2020 for a speedy disposal of the case.
- 9. That the principal of natural justice equity and good conscience demands that the matter may be heard earlier as no purpose will be served in keeping the matter pending.
- 10. That if the present application is not allowed then the Applicant will suffer irreparable loss and injury which cannot be compensated by any means whatsoever.



[Handwritten signature]

 **National Green Tribunal**

Your Payment has been Successful

Court on its own Motion Vs. STATE OF KARNATAKA

Case Title :
Case Type : IA
Case Number : 125
Transaction Id : 0026662020
Transaction Date : 10-08-2020 00:08:00
Filing No : 0701111009892020
Amount : 1000 Rs. Only

ANNEXURE-R-13

No of Organizations have paid Environmental Compensation Charges pertains to Regional Office-Mahadevapura		Amount
Sl.No	Name And Address of the Units	
1	DSR Spring Beauty Apartment, Sy. No. 124/1, Kundalahalli, ITPL Main Road, Whitefield Road, Bengaluru	5.0
2	Prism Properties, Prism Sovereign apartment, Sy.No.106/1 & 107, Kundalahalli village, K.R.Puram Hobli, Bangalore East Taluk	5.0
3	Island Star Mall Developers Private Limited, No 40/41, Lower ground, Whitefield Main Road, Mahadevapura Post, Bengaluru 560 048.	5.0
4	Chitrakuta Environs, Sy. No. 184, 7th cross, Virabhadra Nagar, Bengaluru 560 037	5.0
5	Sumadhura Silver Ripples, Katha No. 222/183, Sy. No. 25/1A, 25/2 28, 30/2, Nallurahalli Village, Bengaluru 560 066	5.0
6	Gopalan Millenium Towers, Sy. No. 133, Kundalahalli Village, K.R. Puram Hobli, Bengaluru	10.0
7	Soul Space Projects Limited, (Soul Space Arena), Sy No. 36/5, Doddenakundi VillageMahadevapura Post, Outer Ring Road,Bangalore East Taluk	5.0
8	Ferns Builders and Developers Ltd , (Ferns Icon), Sy No. 28, 34/3, 36/2, 36/3, 36/4 & 36/5 of Doddanekundi Village Bangalore East Taluk	5.0
9	Prestige Exora Business Park-II, Kadubisanahalli, Bangalore	5.0
	Total	50.0

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No of Organizations have paid Environmental Compensation Charges pertains to Regional Office-Bommanhalli		
Sl.No	Name And Address of the Units	Amount
1	Nandi Gardens Apartment Owners Association, Opp. Promac Industries, Sy. No. 12/23, 24, 25, 9th Phase, J.P. Nagar, Anjanapujra Post, Avalahalli, Bangalore	500000
2	SJR Builders by name SJR Luxuria, Sy.No.100/P/1, 101/1 & 103, Arekere (V), Begur (H), Bangalore.	500000
3	Maruthi Infotech Centre, Sy. No. 11/1 & 12/1, Challagatta Village, Amariyothi Layout, Intermediate Ring Road, Domlur, bangalore	500000
4	Intel Technology India Pvt Ltd Plot No 23 to 56P, Sy No 23/1,23/2P,24,25, 26/P.Devarabeesanahalli, Outer ring road, Varthur hobli, Bellandur post, Bengaluru 560 103	500000
5	H.S.B.C. Electronic Data Processing India Pvt Ltd, "FUTURA", No.148/1, Bannerghatta Road, Bilekahalli Village, Bangalore -560076.	1000000
6	Samhi JV Business Hotels Pvt Ltd [Formerly Supreme Build Cap Pvt Ltd.], Sy. No.43,44/1, 44/2, Devarabisanahalli, Varthur Hobli, Bangalore	500000
7	Keys Hotel, No.7, Hosur Main Road, Singasandra Village, Bangalore	500000

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8	Accenture Service Limited, C/o, RMZ Eco Space Campus-2A Block. No.17/2 to 17/4 to 25/B, 43/1 to 50, Bellandur Village, Bengaluru	500000
9	Accenture Service Limited, C/o, RMZ Eco Space Campus-2B Block. No.17/2 to 17/4 to 25/B, 43/1 to 50, Bellandur Village, Bengaluru	500000
10	AMR Tech Park, 1, 1A, 2A, No.23/24, Hongasandra, Bommanhalli Hosur Main Road, Bangalore-560068	500000
11	AMR Tech Park, IV A/B No.23/24, Hongasandra, Bommanhalli Hosur Main Road, Bangalore-560068	500000
12	Royal Citadel Apartment Owners Association, No.157/6, 155/1A.1, Begur village, Begur Hobli, Bangalore	500000
13	Golf Links Software Pvt Ltd, Sy. No. 13/2, 10/3, 13/1, 14,15(P), 8/2, 2/1, 2/2, 2/3, 2/4, 4(P), 5/1,6,7,7/1,7/2,7/4,8,8/1, 8/2A, 8/2B, 8/3,8/4 & 10 of Challaghatta Village, Off Intermediate Ring Road, Bangalore	500000
14	GV Properties PVt Ltd, Embassy Point, Sy. No.10/2A & 10/2B, Challaghatta Village, Varthur Hobli, Bangalore	500000
15	Mohan Enterprises, Kalyani Magnum, Sy.No. 165/2, Doresanipallya, Bengaluru	500000
16	Mohan Enterprises, Kalyani Vista Sy.No. 165/1,165/17, Doresanipallya, Bengaluru	500000
17	Mohan Enterprises, Krishna Magnum, Sy.No. 165/3, 165/4, Doresanipallya, Bengaluru	500000

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18	New Horizon Educational & Cultural Trust, Sy.No. 14 (New, 48,48,90) 39, 40, 41 & 42, Kadubeesanahalli Village, Varthur Hobli, Bengaluru East Taluk, Bengaluru Urban District	500000
19	Techpark Hotels Pvt. Ltd.(Novotel & IBIS), Sy.No. 41/1 & 41/2, Devarabisanahalli, Varthur Hobli, Bengaluru.	500000
20	Ushodaya Luxuria Owners Association, Sy.No.29/11, IAS Layout, Kasavanahalli, Central jail Road, Bengaluru	500000
21	M/s. RMZ Ecoworld Infrastructure Pvt.Ltd, Devarabeesanahalli Village, Varthur Hobli, Bengaluru	500000
22	Adamas Builders Pvt Ltd, [Formerly Supreme Build Cap Pvt Ltd], Sy. No. 27(P), 28/1(P), 28/2(P), 29/1,29/2,29/3A, 39/3B,32, 33,34/1,34/2,34/3,34/4,35, 36,37/1,37/2, 42(P),43,44/4,44/2,46/3 Devarabisanahalli, varthur Hobli, Bangalore	500000
23	Cessna Garden Developers (P) Ltd.' Cessna Business Park-Phase I & II (Block, 1,2,5,6,7,8 & MLCP) Sy.No.5,6,3/2B, 4(P), 79(P), 8/1,8/2,11(P),12/2(P),12/3(P), 12/4, 17/1(P), 17/3(P),17/4, 38/2,43,44, 7& 9 of Kadabeesanahalli Village, Marathalli-Sarjapur Outer Ring Road, Varthur Hobli, Bengaluru	500000
24	RMZ Ecospace-Campus IA, IB, IC,3A and 3B, Sy. No. 17/2 to 17/4, 20 to 25/8, 43/1 to 50, Bellandur Village, Varthur Hobli, Bengaluru	500000

25	Confident Pheonix Apartment Owners Association, Sy.No.85 & 86, Kasavanahalli, Varthur Hobli, Bengaluru	500000
26	Suadela Construction Pvt Lid, (Hiranandani Projects), Sy.No.321/2B(P), 321/2C, 322/1, 323/1(P),323/3,323/4, 323/5,323/6,323/7, 325/1(P),325/2,327,328/1,328/2,328/3,328/4,330,331,332/2 of Begur Village & 19(P) of Hulimavu Begur Hobli, Bangalore	500000
27	Sai Smaran Constructions, by name Sai Garden, Sy.No. 18/1, K.No.188, Kempapura Village, Varthur Hobli, Bengaluru East Taluk, Bengaluru	500000
28	Nirman Nydhile Residency Owners Welfare Association, Sy.No.85/1, 85/2 & 86/1, Gottigere Village, Uttarahalli Hobli, Bangalore	500000
	TOTAL	1450000

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No of Organizations have paid Environmental Compensation Charges pertains to Regional Office-south		
Sl.No	Name And Address of the Units	Amount
1	M/s. Gopalan Enterprises (india)pvt ltd, No.6, 87/1B,88, 90/1, 90/2, 143/1B, Benganahalli, old madras road, Bengaluru-560 036.	5
2	St. Marks Hotel, No. 4/1, St. Marks Road, Bengaluru-560 001	5
	Total	10

No of Organizations have paid Environmental Compensation Charges pertains to Regional Office-East		
Sl.No	Name And Address of the Units	Amount
1	M/s. Ganapa Towers, 51/3, Hosur Main Road, Madivala, Bangalore-68	5
	Total	5

ANNEXURE-14

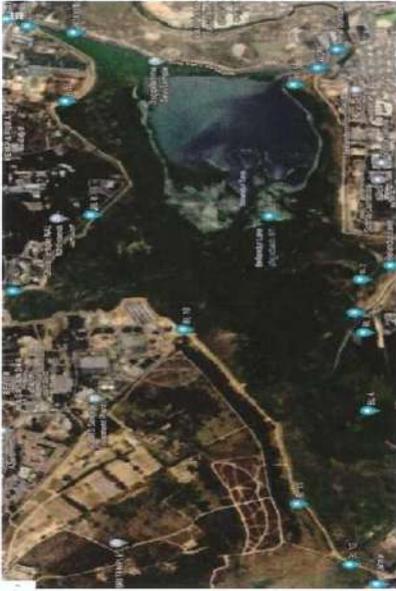
Internal Technical Committee (ITC) report of CPCB on review & assessment of analysis of Sediment Samples collected from Bellandur & Varathur Lakes, Bengaluru

1. Background:

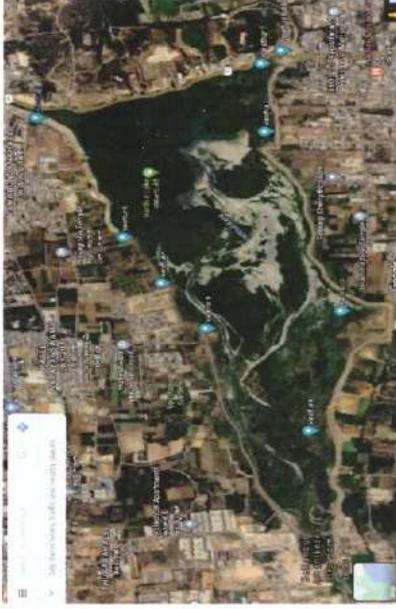
While hearing the matter of O.A. No. 125/2017, Court on its own Motion Vs State of Karnataka, the Hon'ble NGT passed an order dated 13.08.2020 that *"We have given due consideration to the rival opinions. We are of the view that some more sampling may be got carried out with regard to de-silted debris / sludge at appropriate representative locations for comprehensive database and thereafter disposal protocol may be finalized in consultation with the CPCB. This will avoid unnecessary delay and cost"*.

Accordingly, KSPCB carried out sediment sampling in Varthur & Bellandur Lakes on 16th & 18th September, 2020 in the presence of CPCB official and collected 8 and 12 samples respectively from three different depths (1,3 and 6 feet deep) in each location. The sampling locations in Bellandur and Varthur Lakes are depicted in the maps shown below in Fig 1.





Bellandur Lake



Varthur Lake

Fig 1 : Sampling locations in Bellandur & Varthur Lakes

2. Internal Technical Committee:

The CPCB, Regional Directorate, Bengaluru constituted an Internal Technical Committee (ITC) comprising CPCB officials to review and assess the outcome of analysis carried out on the sediment samples collected from the lakes. The committee was constituted with following officials:

1. Mrs. H. D. Varalaxmi, Sc.E/AD
2. Mr. G. Thirumurthy, Sc.E/AD
3. Dr. V. Deepesh, Sc. C

The committee had the first meeting on 11th November 2020 and reviewed the analysis results of sediment samples taken from Bellandur & Varathur Lakes and made following observations on the adequacy of samplings and analysis outcome.

- a) The committee observed that the number of samples collected from Bellandur & Varathur lakes were grossly inadequate considering the extend of lake area (Bellanduru - 960 acres, Varthur - 446 acres). As per the **Guidance Document for**

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Assessment and Remediation of Contaminated Site in India, issued by MoEF &CC, "for large areas (e.g. 500m x 500m or more) where spacing between sampling locations would exceed 150 m, intermediate locations would be also identified (preferable in a square grid of 150 m x 150 m)". According to the sampling strategy suggested in the guidance document, more than 200 samples from Belandur and more than 100 samples from Varthur has to be taken to ascertain the characteristic of representative sediments in the Lakes. However, the Committee took stock of these restrictions and ground realities hindering proper sampling as the lake sediments are still slushy and access to many locations in the lakes were difficult at the time of sampling.

b) The committee considered following parameters (Table 1) for the assessment of the sediment quality of lake.

Table 1: Parameters Considered for Sediment Quality

Metals (mg/kg)	Other Parameters
1. Boron	1. pH
2. Chromium	2. Conductivity ($\mu\text{s}/\text{cm}$)
3. Iron	3. Total Phosphorus (mg/kg)
4. Nickel	4. Sulphur (mg/kg)
5. Copper	5. Calcium (mg/kg)
6. Zinc	6. Magnesium (mg/kg)
7. Cadmium	7. Sodium (mg/kg)
8. Lead	8. Potassium (mg/kg)
9. Beryllium	9. Total Organic Carbon (%)
10. Vanadium	10. Cation exchange capacity (CEC), m.eq/100gm
11. Cobalt	11. Nitrogen (TKN) (%)
12. Arsenic	12. Hexavalent Chromium (mg/kg)
13. Selenium	13. TWSS (total water-soluble solids) (mg/kg)
14. Molybdenum	
15. Silver	
16. Antimony	
17. Barium	
18. Mercury	
19. Thallium	
20. Manganese	

- c) The committee assessed the analysis results based on the Screening Levels of soil quality parameters prescribed for Agriculture in the guidance document (Volume III - issued by MoEF & CC). Wherever, screening levels are not prescribed, the parameter is compared with the prescribed Response Level.
- d) The exceedance with respect to the Response and Screening Levels of parameters in the sediments collected from Bellandur lake is summarized in **Table:2&3**.

Table 2: Exceedance count with respect to Bellandur lake sediments

Parameters in mg/kg	No. of Locations	Observed concentration in mg/kg		Response level in mg/kg		Screening level for Agricultural (mg/kg)	
		Min.	Max.	Standard/Limit	No of locations exceeded	Standard/Limit	No of locations exceeded
Antimony	12	BDL	BDL	22	0	20	0
Arsenic	12	BDL	3.02	50	0	12	0
Barium	12	8.52	340.71	-	-	750	0
Beryllium	12	BDL	BDL	-	-	4	0
Boron	12	3.38	3.62	-	-	2	2
Cadmium	12	3.03	21.06	13	4	1.4	9
Chromium (T)	12	6.20	67.48	-	-	64	1
Cobalt	12	2.78	22.60	190	0	40	0
Copper	12	3.94	180.89	190	0	63	9
Iron	12	2797.81	22738.10	-	-	-	-
Lead	12	3.47	93.5	530	0	70	1
Manganese	12	11.11	1007.05	-	-	-	-
Mercury	12	BDL	BDL	36	-	6.6	-
Molybdenum	12	2.80	13.09	190	-	5	2
Nickel	12	2.92	57.03	100	0	50	1
Selenium	12	BDL	BDL	-	-	1	0
Silver	12	2.5	6.76	-	-	20	0
Thallium	12	BDL	BDL	-	-	1	0
Vanadium	12	6.60	37.61	-	-	130	0
Zinc	12	2.61	436.19	720	0	200	5

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- e) Heavy metals like boron (2 location), cadmium (9 location), total chromium (1 location), copper (9 locations), lead (1 location), molybdenum (2 location), nickel (1 location) and zinc (5 location) are exceeding screening levels in the sediment samples collected from Belandur lake.
- Cadmium exceeds both response and screening levels and most exceedance is with respect to cadmium, copper and zinc.
- f) The committee suggests that zinc may not be taken as an exceeding factor and copper exceedance seems to be marginal and only few samples are showing higher values. If properly homogenized or mixed the sediment samples, issues of copper and zinc exceedance may be managed. However, committee is of the opinion that cadmium is an issue and has to be addressed before disposing of the sediments.

Table 3: Exceedance matrix of Belandur lake samples

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Sample	B	Cr (T)	Ni	Cu	Zn	Cd	Pb	Be	V	Co	As	Se #	Mo	Ag	Sb	Ba	Hg	Tl #
BL1	A	BDL*	38.92	14.76	131.41	223.54	16.39	BDL*	22.44	4.42	BDL*	BDL*	4.49	5.69	BDL*	165.03	BDL*	BDL*
	B	BDL*	27.64	11.05	116.98	258.45	17.86	BDL*	8.90	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	77.49	BDL*	BDL*
	C	BDL*	9.88	10.64	10.49	17.32	BDL*	9.81	BDL*	11.04	BDL*	BDL*	BDL*	3.78	BDL*	102.14	BDL*	BDL*
BL2	A	BDL*	22.21	10.13	68.43	132.49	8.25	BDL*	16.22	2.92	BDL*	BDL*	3.94	5.29	BDL*	123.61	BDL*	BDL*
	B	BDL*	12.39	4.44	10.52	14.66	BDL*	5.82	BDL*	10.23	BDL*	BDL*	BDL*	BDL*	BDL*	40.76	BDL*	BDL*
	C	BDL*	43.19	16.96	155.19	330.14	21.06	33.31	BDL*	9.66	BDL*	BDL*	2.80	4.27	BDL*	96.49	BDL*	BDL*
BL3	A	BDL*	11.38	2.92	3.94	2.61	BDL*	3.47	BDL*	9.19	BDL*	BDL*	BDL*	BDL*	BDL*	8.52	BDL*	BDL*
	B	BDL*	32.08	13.94	75.38	167.73	13.70	22.70	BDL*	9.26	BDL*	BDL*	BDL*	5.41	BDL*	140.66	BDL*	BDL*
	C	BDL*	35.33	13.71	101.76	200.45	18.85	25.03	BDL*	8.80	BDL*	BDL*	BDL*	5.18	BDL*	147.11	BDL*	BDL*
BL4	A	BDL*	20.84	9.48	10.51	7.68	BDL*	5.33	BDL*	14.01	3.77	BDL*	BDL*	BDL*	BDL*	51.71	BDL*	BDL*
	B	BDL*	27.27	11.79	70.89	194.59	9.51	28.80	BDL*	9.29	BDL*	BDL*	6.68	BDL*	BDL*	63.87	BDL*	BDL*
	C	BDL*	27.67	11.68	85.30	182.26	15.83	28.24	BDL*	6.66	BDL*	BDL*	BDL*	2.50	BDL*	66.29	BDL*	BDL*
BL5	A	BDL*	29.19	17.81	28.04	49.52	BDL*	18.04	BDL*	26.58	15.03	BDL*	BDL*	BDL*	BDL*	56.91	BDL*	BDL*
	B	BDL*	32.21	26.37	34.84	84.94	3.86	17.96	BDL*	37.61	22.60	BDL*	BDL*	BDL*	BDL*	80.10	BDL*	BDL*
	C	BDL*	61.25	13.60	17.40	7.66	BDL*	10.02	BDL*	36.11	20.72	BDL*	BDL*	BDL*	BDL*	340.71	BDL*	BDL*
BL6	A	BDL*	30.80	21.41	26.92	134.08	3.27	13.19	BDL*	27.80	5.45	BDL*	BDL*	BDL*	BDL*	56.29	BDL*	BDL*
	B	BDL*	37.16	24.87	46.27	134.50	BDL*	21.71	BDL*	24.39	3.90	BDL*	BDL*	BDL*	BDL*	46.22	BDL*	BDL*
	C	BDL*	57.76	11.62	90.85	34.30	BDL*	23.72	BDL*	12.34	BDL*	3.02	BDL*	13.09	BDL*	65.50	BDL*	BDL*
BL7	A	BDL*	23.62	10.95	22.60	122.97	6.18	7.69	BDL*	13.24	BDL*	BDL*	4.14	4.00	BDL*	118.20	BDL*	BDL*
	B	BDL*	20.71	6.99	10.58	9.57	BDL*	5.10	BDL*	19.31	4.02	BDL*	BDL*	BDL*	BDL*	53.62	BDL*	BDL*
	C	BDL*	55.22	12.71	13.23	5.17	BDL*	6.28	BDL*	24.00	7.77	BDL*	BDL*	BDL*	BDL*	59.18	BDL*	BDL*
BL8	A	3.62	67.48	57.03	180.89	436.19	BDL*	62.62	BDL*	15.25	3.68	BDL*	4.90	6.76	BDL*	225.22	BDL*	BDL*
	B	BDL*	43.35	11.07	24.27	50.99	BDL*	10.90	BDL*	15.22	BDL*	BDL*	BDL*	BDL*	BDL*	55.23	BDL*	BDL*
	C	BDL*	59.64	35.83	115.28	314.68	BDL*	37.13	BDL*	10.38	BDL*	BDL*	3.59	4.19	BDL*	161.16	BDL*	BDL*
BL9	A	BDL*	16.96	8.76	45.94	117.91	BDL*	18.29	BDL*	9.95	BDL*	BDL*	BDL*	BDL*	BDL*	66.08	BDL*	BDL*
	B	BDL*	29.78	17.50	65.16	140.61	BDL*	23.06	BDL*	13.20	BDL*	BDL*	BDL*	BDL*	BDL*	95.09	BDL*	BDL*
	C	3.38	6.20	6.67	6.67	10.60	BDL*	6.12	BDL*	9.92	4.95	BDL*	BDL*	BDL*	BDL*	89.51	BDL*	BDL*
BL10	A	BDL*	26.71	10.12	19.40	34.34	BDL*	8.78	BDL*	8.25	BDL*	BDL*	BDL*	3.02	BDL*	111.48	BDL*	BDL*
	B	BDL*	54.59	23.76	78.44	171.51	BDL*	24.81	BDL*	9.57	BDL*	BDL*	BDL*	3.32	BDL*	116.60	BDL*	BDL*
	C	BDL*	17.94	4.10	5.78	8.13	BDL*	4.29	BDL*	6.60	BDL*	BDL*	BDL*	BDL*	BDL*	11.68	BDL*	BDL*
BL11	A	BDL*	7.62	5.87	9.43	16.67	BDL*	8.40	BDL*	10.03	2.78	BDL*	BDL*	BDL*	BDL*	73.21	BDL*	BDL*
	B	BDL*	20.12	8.84	19.32	23.02	BDL*	10.81	BDL*	17.29	2.93	BDL*	BDL*	BDL*	BDL*	25.57	BDL*	BDL*
	C	BDL*	18.53	8.37	62.49	109.65	4.52	21.21	BDL*	9.61	BDL*	BDL*	BDL*	2.59	BDL*	80.37	BDL*	BDL*
BL12	A	BDL*	42.47	19.61	96.26	220.04	3.03	57.07	BDL*	11.73	BDL*	BDL*	BDL*	2.52	BDL*	110.20	BDL*	BDL*
	B	BDL*	32.34	14.16	128.74	212.07	10.06	46.81	BDL*	13.23	BDL*	BDL*	BDL*	5.05	BDL*	121.65	BDL*	BDL*
	C	BDL*	50.94	22.79	123.47	259.63	4.11	93.15	BDL*	13.78	BDL*	BDL*	BDL*	4.87	BDL*	185.45	BDL*	BDL*
Limit	2.0	64.0	50.0	63.0	200.0	1.4	70.0	4.0	130.0	40.0	12.0	1.0	5.0	20.0	20.0	750.0	6.6	1.0

BDL*: ≤ 1.0 mg/Kg, #: Prescribed limit equal to BDL value

Below detectable limit for most of the metals is 1.0 mg/Kg. However, the limit prescribed by the standards with respect selenium and thallium (1 mg/Kgis equal to the BDL values of these metals).

For these metals, analysis with higher sensitive range shall be adopted in further studies to make a comparison with standard limits.

g) The exceedance with respect to the Response and Screening Levels of parameters in the sediments collected from Varathur lake is summarized in Table 4&5.

Table 4: Exceedance count with respect to Varthur lake sediments

Parameters in mg/kg	No. of Locations	Observed concentration in mg/kg		Response level in mg/kg		Screening level for Agricultural (mg/kg)	
		Min.	Max.	Standard/Limit	No of locations exceeded	Standard/Limit	No of locations exceeded
Antimony	8	BDL	BDL	22	0	20	0
Arsenic	8	BDL	3.01	50	0	12	0
Barium	8	BDL	176.01	-	-	750	0
Beryllium	8	BDL	BDL	-	-	4	0
Boron	8	BDL	2.82	-	-	2	1
Cadmium	8	BDL	BDL	13	0	1.4	0
Chromium (T)	8	6.64	49.13	-	-	64	0
Cobalt	8	2.26	14.29	190	0	40	0
Copper	8	3.54	30.18	190	0	63	0
Iron	8	4418.9	26906.8	-	-	-	-
Lead	8	2.85	19.47	530	0	70	0
Manganese	8	19.28	3290.33	-	-	-	-
Mercury	8	BDL	BDL	36	-	6.6	-
Molybdenum	8	BDL	BDL	190	-	5	0
Nickel	8	3.38	23.46	100	0	50	0
Selenium	8	BDL	BDL	-	-	1	0
Silver	8	BDL	BDL	-	-	20	0

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Parameters in mg/kg	No. of Locations	Observed concentration in mg/kg		Response level in mg/kg		Screening level for Agricultural (mg/kg)	
		Min.	Max.	Standard/Limit	No of locations exceeded	Standard/Limit	No of locations exceeded
Thallium	8	BDL	BDL	-	-	1	0
Vanadium	8	10.45	56.93	-	-	130	0
Zinc	8	2.98	61.96	720	0	200	0

Table 5: Exceedance matrix of Varthur lake samples

Sample	B	Cr (T)	Ni	Cu	Zn	Cd	Pb	Be	V	Co	As	Se #	Mo	Ag	Sb	Ba	Hg	TI #
V1	A	BDL*	21.79	10.89	12.37	24.26	BDL*	5.91	BDL*	29.27	5.57	BDL*	BDL*	BDL*	BDL*	73.23	BDL*	BDL*
	B	BDL*	20.15	13.61	15.51	22.67	BDL*	8.48	BDL*	49.08	11.87	BDL*	BDL*	BDL*	BDL*	102.42	BDL*	BDL*
	C	BDL*	22.21	13.56	13.66	16.60	BDL*	8.12	BDL*	38.43	9.59	BDL*	BDL*	BDL*	BDL*	99.29	BDL*	BDL*
V2	A	BDL*	18.96	12.03	10.13	7.03	BDL*	5.34	BDL*	26.36	8.30	BDL*	BDL*	BDL*	BDL*	62.65	BDL*	BDL*
	B	BDL*	31.38	10.05	7.69	5.16	BDL*	4.84	BDL*	21.97	4.83	BDL*	BDL*	BDL*	BDL*	47.08	BDL*	BDL*
	C	BDL*	18.51	13.31	8.79	7.42	BDL*	4.90	BDL*	17.19	5.15	BDL*	BDL*	BDL*	BDL*	101.86	BDL*	BDL*
V3	A	BDL*	26.29	17.78	25.21	39.46	BDL*	10.33	BDL*	41.10	6.94	BDL*	BDL*	BDL*	BDL*	94.49	BDL*	BDL*
	B	BDL*	20.64	13.20	17.17	13.98	BDL*	9.16	BDL*	56.93	14.29	2.80	BDL*	BDL*	BDL*	79.55	BDL*	BDL*
	C	BDL*	15.65	11.27	12.06	9.23	BDL*	6.92	BDL*	33.69	8.88	BDL*	BDL*	BDL*	BDL*	101.23	BDL*	BDL*
V4	A	2.92	36.96	23.46	30.18	35.35	BDL*	15.27	BDL*	52.72	8.86	3.01	BDL*	BDL*	BDL*	110.22	BDL*	BDL*
	B	BDL*	8.24	9.63	9.51	9.57	BDL*	10.20	BDL*	22.83	9.65	BDL*	BDL*	BDL*	BDL*	155.41	BDL*	BDL*
	C	BDL*	10.61	18.70	17.90	13.65	BDL*	19.47	BDL*	10.45	6.44	BDL*	BDL*	BDL*	BDL*	119.72	BDL*	BDL*
V5	A	BDL*	14.53	6.90	9.45	21.31	BDL*	3.67	BDL*	27.50	4.86	BDL*	BDL*	BDL*	BDL*	87.58	BDL*	BDL*
	B	BDL*	13.16	8.13	12.55	23.37	BDL*	4.09	BDL*	35.74	5.65	BDL*	BDL*	BDL*	BDL*	176.01	BDL*	BDL*
	C	BDL*	13.39	10.33	17.62	26.54	BDL*	2.85	BDL*	32.98	5.79	BDL*	BDL*	BDL*	BDL*	104.01	BDL*	BDL*
V6	A	BDL*	49.13	3.44	3.75	3.31	BDL*	4.79	BDL*	24.40	2.26	BDL*	BDL*	BDL*	BDL*	9.12	BDL*	BDL*
	B	BDL*	25.94	3.38	3.54	2.78	BDL*	3.62	BDL*	16.63	2.51	BDL*	BDL*	BDL*	BDL*	7.80	BDL*	BDL*
	C	BDL*	26.52	9.46	14.98	8.11	BDL*	9.56	BDL*	37.02	3.83	BDL*	BDL*	BDL*	BDL*	41.50	BDL*	BDL*
V7	A	BDL*	13.90	11.17	24.41	61.96	BDL*	8.48	BDL*	14.30	3.24	BDL*	BDL*	BDL*	BDL*	42.29	BDL*	BDL*
	B	BDL*	16.03	5.79	6.22	3.83	BDL*	4.99	BDL*	21.40	3.30	BDL*	BDL*	BDL*	BDL*	34.50	BDL*	BDL*
	C	BDL*	9.84	5.82	7.99	3.52	BDL*	7.92	BDL*	22.55	5.23	BDL*	BDL*	BDL*	BDL*	96.51	BDL*	BDL*
V8	A	BDL*	35.05	11.96	23.41	45.42	BDL*	11.35	BDL*	29.94	5.24	BDL*	BDL*	BDL*	BDL*	52.26	BDL*	BDL*
	B	BDL*	20.73	9.37	15.80	26.58	BDL*	7.69	BDL*	26.44	4.69	BDL*	BDL*	BDL*	BDL*	48.77	BDL*	BDL*
	C	BDL*	6.64	5.11	6.23	4.57	BDL*	7.26	BDL*	17.19	4.59	BDL*	BDL*	BDL*	BDL*	83.41	BDL*	BDL*
Limit	2.0	64.0	50.0	63.0	200.0	1.4	70.0	4.0	130.0	40.0	12.0	1.0	5.0	20.0	20.0	750.0	6.6	1.0

BDL*: ≤ 1.0 mg/Kg. #: Prescribed limit equal to BDL value

- h) With respect to Varthur lake sediment, only one sample registered exceedance with respect to Boron and no other major issues of contamination observed with the analysis data presented to the committee.
- i) Based on the analysis report and exceedance of copper and cadmium in many locations in Bellandur Lake, the committee suggested to carry out re-sampling in sample grids which shows higher cadmium contamination. It was suggested to draw samples within a distance of 150 m from the previous sample points which resulted in higher cadmium / copper contamination.
- j) Accordingly, samples were drawn on 12th November, 2020 from eight locations adjacent to the previously sampled sites (location near BL 1,2,3,4,5,11 and 12) which resulted in higher cadmium or copper content. The analysis results were presented to this committee for review. On reviewing, committee observed that many heavy metals which were not an issue in the previous samples emerged in the new set of samples, suggesting that there may be several localized pockets of contaminants in the inlet area and other scattered pockets. It was also reported that, the inlet area of lake bed has been excavated and sediments were piled up. In this area, sand was observed on the day of sampling (12-11-2020). The re-sampled locations of sediment sample in Belandur lake are shown below in **Fig 2**.

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Fig 2: Re-sampled locations of sediment sample in Bellandur Lake

k) The exceedance with respect to the response & screening levels of parameters in the second batch of sediments collected from Bellandur lake is summarized in Table 5 &6.

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Table 5: Exceedance count w.r.t Bellandur lake sediments collected on 12-11-2020

Parameters in mg/kg	No. of Locations		Observed concentration in mg/kg		Response level in mg/kg		Screening level for Agricultural (mg/kg)	
	Min.	Max.	Standard	No of locations exceeded	Standard	No of locations exceeded		
Antimony	BDL	BDL	22	0	20	0		
Arsenic	BDL	7.07	50	0	12	0		
Barium	36.41	269.73	-	-	750	0		
Beryllium	BDL	BDL	-	-	4	0		
Boron	BDL	6.59	-	-	2	3		
Cadmium	BDL	58.85	13	7	1.4	7		
Chromium (T)	6.64	89.34	-	-	64	3		
Cobalt	2.33	16.32	190	0	40	0		
Copper	11.98	286.87	190	6	63	6		
Iron	2480.8	19546.7	-	-	-	-		
Lead	9.07	103.50	530	0	70	3		
Manganese	57.31	583.47	-	-	-	-		
Mercury	BDL	BDL	36	-	6.6	-		
Molybdenum	BDL	6.52	190	-	5	3		
Nickel	5.73	49.42	100	0	50	0		
Selenium	BDL	3.74	-	-	1	6		
Silver	BDL	10.81	-	-	20	0		
Thallium	BDL	BDL	-	-	1	0		
Vanadium	7.84	63.79	-	-	130	0		
Zinc	9.02	557.20	720	0	200	6		

Table 6: Exceedance matrix of Bellandur lake sediments collected on 12-11-2020

Sample	B	Cr (T)	Ni	Cu	Zn	Cd	Pb	Be	V	Co	As	Se #	Mo	Ag	Sb	Ba	Hg	Tl #
1A	BDL*	39.99	20.00	46.33	110.69	BDL*	18.45	BDL*	35.00	6.35	2.72	BDL*	BDL*	BDL*	BDL*	77.73	BDL*	BDL*
8L13	1B	BDL*	35.58	19.97	50.98	115.52	BDL*	30.74	BDL*	30.23	13.38	BDL*	BDL*	BDL*	BDL*	116.71	BDL*	BDL*
	1C	BDL*	63.92	31.20	53.47	175.17	BDL*	25.26	BDL*	43.55	6.61	3.16	2.26	BDL*	2.01	87.59	BDL*	BDL*
	2A	4.33	35.72	31.25	77.67	236.96	5.36	25.26	BDL*	17.51	6.00	3.10	2.00	2.93	2.60	108.95	BDL*	BDL*
8L14	2B	BDL*	15.51	9.61	44.71	83.63	BDL*	14.89	BDL*	14.85	4.21	BDL*	BDL*	BDL*	BDL*	64.52	BDL*	BDL*
	2C	BDL*	12.87	9.94	11.98	9.02	BDL*	14.04	BDL*	29.40	15.77	2.28	2.17	BDL*	BDL*	269.73	BDL*	BDL*
	3A	BDL*	78.13	49.42	206.36	331.64	16.19	49.20	BDL*	63.79	16.32	6.54	3.58	5.39	5.14	215.31	BDL*	BDL*
8L15	3B	BDL*	70.88	40.77	174.37	346.42	12.88	43.67	BDL*	48.42	10.64	5.98	3.69	5.04	4.67	168.85	BDL*	BDL*
	3C	BDL*	82.46	44.54	214.60	315.37	15.31	51.88	BDL*	47.03	9.58	7.07	3.74	5.02	5.75	196.29	BDL*	BDL*
	4A	2.74	52.92	22.38	247.63	500.49	31.84	60.37	BDL*	32.83	5.13	3.15	2.12	5.59	7.93	176.62	BDL*	BDL*
8L16	4B	BDL*	45.21	19.39	150.05	384.08	18.41	42.18	BDL*	29.37	5.54	2.81	BDL*	3.57	4.47	127.70	BDL*	BDL*
	4C	3.21	52.16	21.89	286.87	557.20	29.79	56.68	BDL*	30.71	4.60	2.90	2.51	6.52	8.76	176.86	BDL*	BDL*
	5A	BDL*	48.58	17.38	105.93	219.18	10.83	25.27	BDL*	28.31	5.21	2.87	BDL*	BDL*	2.59	101.45	BDL*	BDL*
8L17	5B	BDL*	20.60	9.91	45.98	120.54	5.94	13.00	BDL*	19.72	4.16	BDL*	BDL*	BDL*	66.39	BDL*	BDL*	
	5C	BDL*	16.17	6.45	33.79	76.32	3.32	9.07	BDL*	17.10	2.33	BDL*	BDL*	BDL*	36.41	BDL*	BDL*	
	6A	BDL*	50.59	14.48	39.93	94.57	2.06	15.64	BDL*	34.55	7.51	BDL*	BDL*	BDL*	106.85	BDL*	BDL*	
8L18	6B	BDL*	80.64	20.44	53.20	111.89	2.48	103.50	BDL*	53.30	10.03	3.07	BDL*	BDL*	92.71	BDL*	BDL*	
	6C	BDL*	52.75	10.14	23.13	29.63	BDL*	10.60	BDL*	47.95	10.01	2.11	BDL*	BDL*	49.14	BDL*	BDL*	
	7A	BDL*	59.89	23.45	191.87	405.96	29.70	53.56	BDL*	30.65	4.90	2.76	BDL*	4.90	6.44	147.00	BDL*	BDL*
8L19	7B	BDL*	46.65	22.44	185.33	375.99	29.41	52.20	BDL*	27.72	4.62	2.82	2.26	5.87	5.98	138.44	BDL*	BDL*
	7C	BDL*	58.99	32.06	257.97	542.92	58.85	72.91	BDL*	30.80	5.47	3.26	2.23	4.68	8.07	170.93	BDL*	BDL*
	8A	6.59	6.64	5.73	26.85	80.56	2.90	25.07	BDL*	7.84	BDL*	BDL*	BDL*	BDL*	BDL*	53.08	BDL*	BDL*
8L20	8B	BDL*	81.59	44.73	230.26	535.71	26.08	85.14	BDL*	29.85	5.08	3.36	2.17	4.55	9.81	213.03	BDL*	BDL*
	8C	BDL*	89.34	44.96	237.81	550.93	19.74	93.07	BDL*	29.62	4.91	3.41	2.06	4.54	10.81	246.51	BDL*	BDL*
Limit	2.0	64.0	50.0	63.0	200.0	1.4	70.0	4.0	130.0	40.0	12.0	1.0	5.0	20.0	20.0	750.0	6.6	1.0

BDL*: ≤ 1.0 mg/Kg. #: Prescribed limit equal to BDL value

1) Heavy metals like boron (3 locations), cadmium (7 locations), total chromium (3 locations), copper (6 locations), lead (3 locations), molybdenum (3 locations), selenium (6 locations) and zinc (6 locations) are exceeding screening levels in the second batch of sediment samples collected from Bellandur lake.

m) Cadmium and copper exceeds both response and screening levels and most exceedance is with respect to cadmium, copper, selenium and zinc. Committee reiterated the issues with the presence of cadmium and copper in many samples and this results gives an indication that there may be several pockets of contaminants in the accumulated sediments in the lake.

3. Suggestions of Internal Technical Committee of CPCB:

The Committee is of the opinion that the numbers of samples collected from Bellandur & Varthur lakes were grossly inadequate. However, the Committee also considered the ground reality which hindering the sampling pattern as the Lake sediments are slushy and difficulties in access to many locations in the lakes, in view of the above, Committee suggested the following steps to ascertain the scientific desilting and disposal of sediments:

i. In case of Bellandur Lake, Cadmium and Copper contamination exceeds the screening levels in many samples and warrants scientific disposal of lake sediments after stabilization to nullify the toxicity. However, the quantum of work involved is very high given the extent of Lake Area and depth of sediments. Committee is of the opinion that the entire quantum of lake sediment may not require treatment and stabilization as there may be deposition of sand and clay in the bottom part especially at the inlet part of the lake. It is suggested to engage a third party (Expert Organisation / Institute / Consultant) to assess the sediment profile and to quantify the amount of sediment that need proper stabilization/ disposal. The specific assessment required further are:

- Detail study / survey of lakes to assess the sediment accumulation.
- Horizontal and Vertical sediment profiling to delineate contaminated sediment pockets.
- Quantification and Assessment of contaminated sediments.
- To provide various technical options for the containment / disposal of sediments with cost benefit analysis.

ii. Based on the quality & quantity of sediment after the profiling/ assessment, identified pockets of Lake which are not meeting the Screening Level is required to be desilted by using specified equipment's and the sediment shall be stored separately under shed or by covering HDPE sheet. After uniform mixing, these sediment has to be assessed for concentration of heavy metals either by XRF or by conventional test, in case of any exceedance, leachability test using standard TCLP & STLC procedures to be carried out. If any of the samples exhibits leachability for prescribed parameters, exceeding the limits prescribed in Schedule II of the Hazardous & Other Waste Management (HOWM) Rules of 2016, special disposal strategy is

required as per the *Guidance Document for Assessment and Remediation of Contaminated Site in India*, issued by MoEF&CC.

- iii. In the preliminary sampling, except Boron, no other parameters exceeded the Screening Levels in the samples taken from Varthur Lake. Due to the large extent of the Lake Area and inadequate sample numbers due to field restrictions, it is apprehended that there may be chances of localized contaminated pockets in the Lake if more samples are drawn. In this circumstances, it is suggested to carry out sediment profiling and to assess the quality and quantum of sediment that can be disposed without any stabilization. In case of identification of any contaminants in any localised pockets, same procedure as suggested above (point no (3) (ii)) shall be adopted for scientific desilting and safe disposal.
- iv. The committee also suggest that on confirmation of contamination through preliminary investigation (characterisation of sediments grid wise by taking adequate samples as per the sampling pattern prescribed in the Guidance document) confirms the contamination, detailed site investigation would be required. If the site does not qualify as a contaminated site, it is not necessary to continue detailed investigation of the site.
- v. Committee also observed that analysis of background or control sample was not made available to compare the extent of contamination in lake sediments. It is suggested to take background/control samples as per the guidance document.

ANNEXURE-R-15

Varthur lake



VARTHUR LAKE

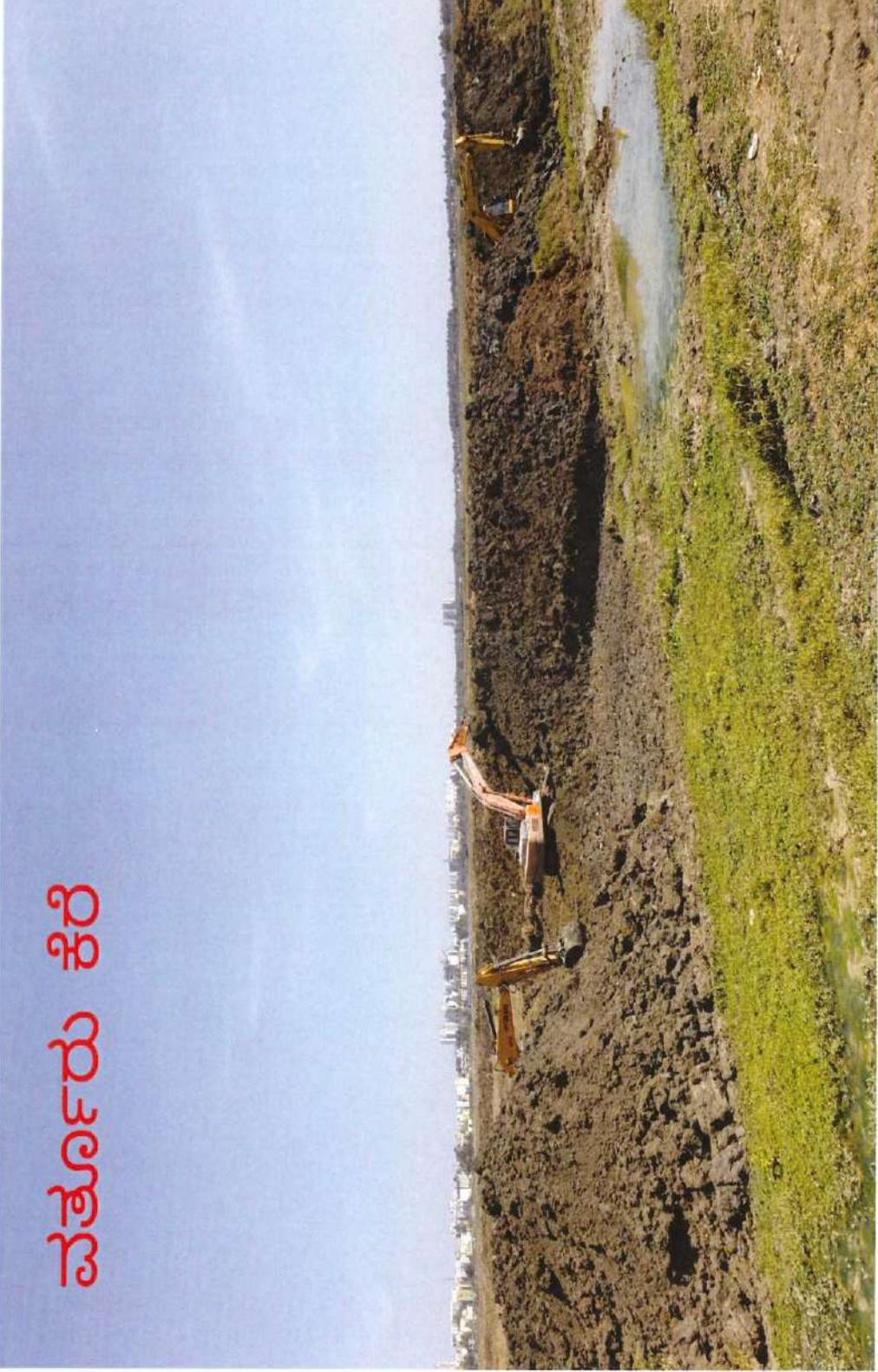
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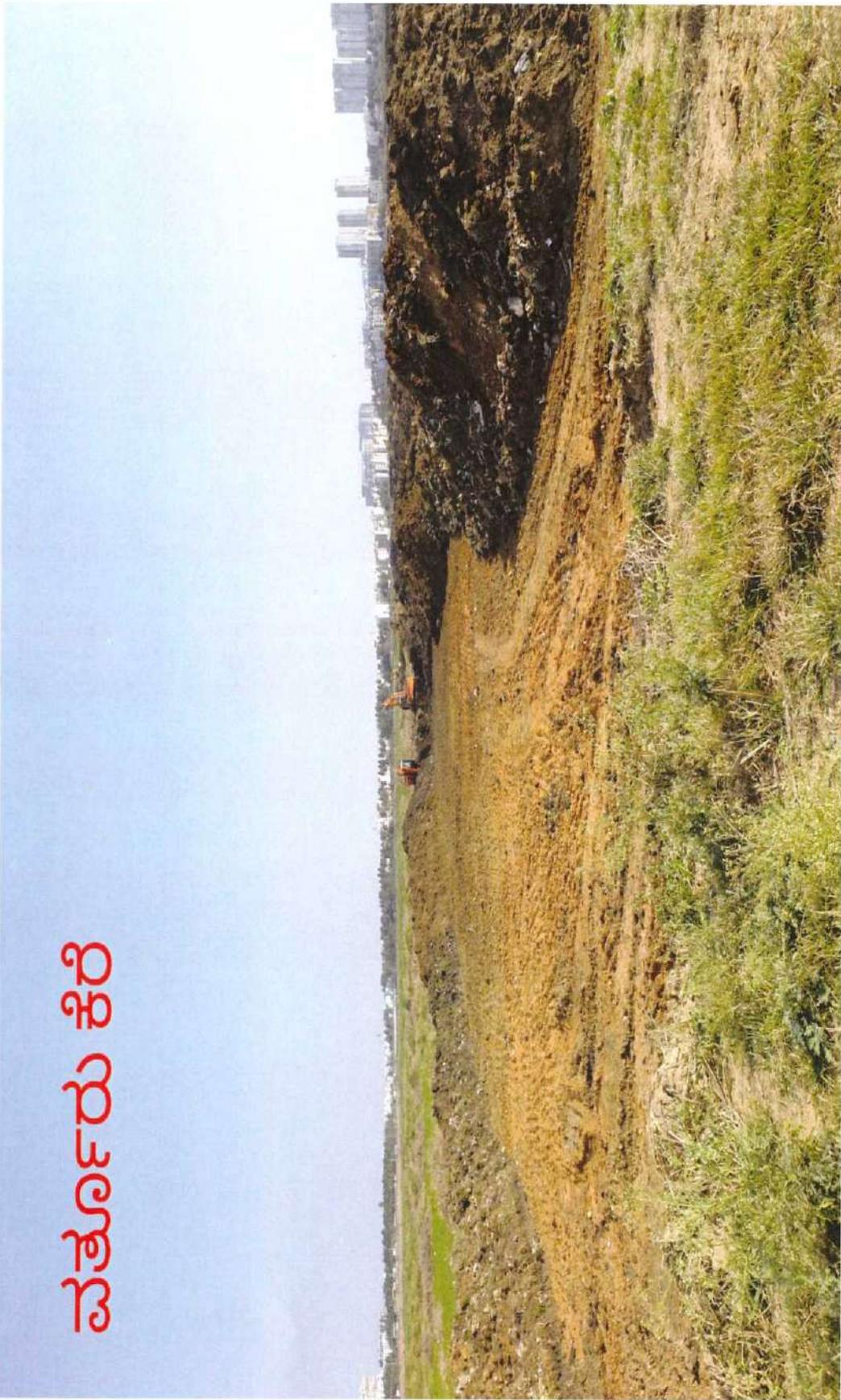
VARTHUR LAKE

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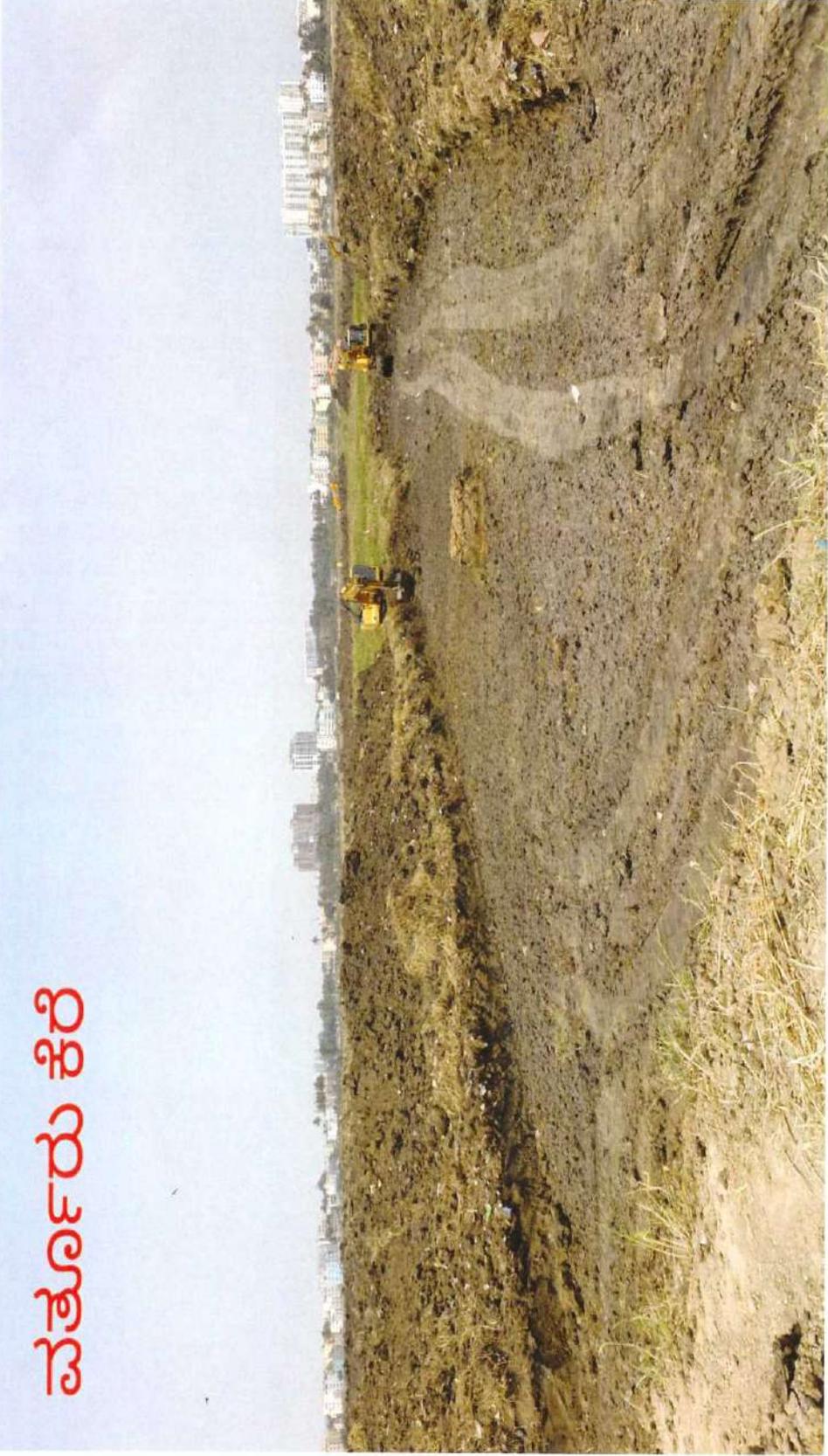


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VARTHUR LAKE

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VARTHUR LAKE

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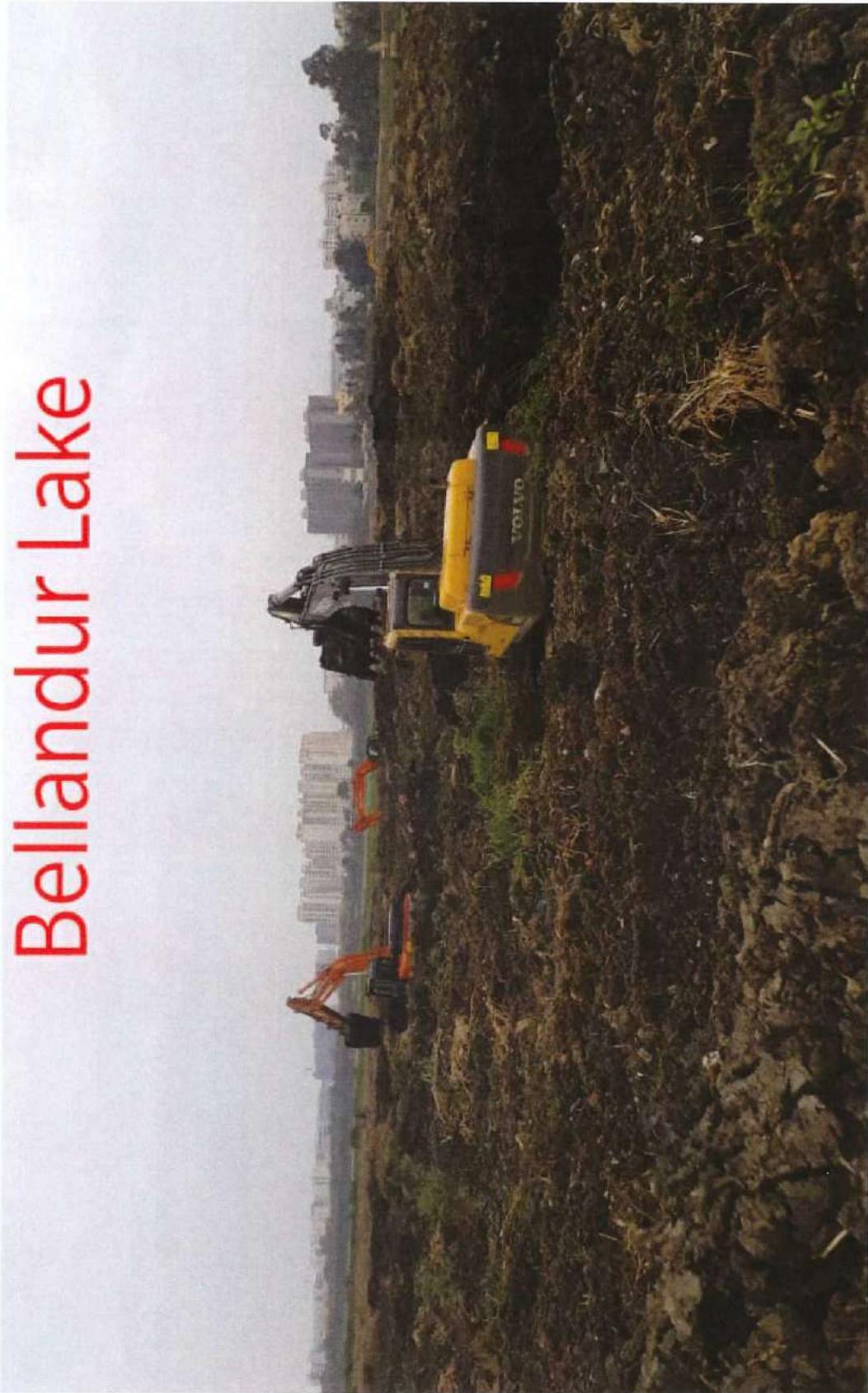
ANNEXURE – R-16

Bellandur Lake



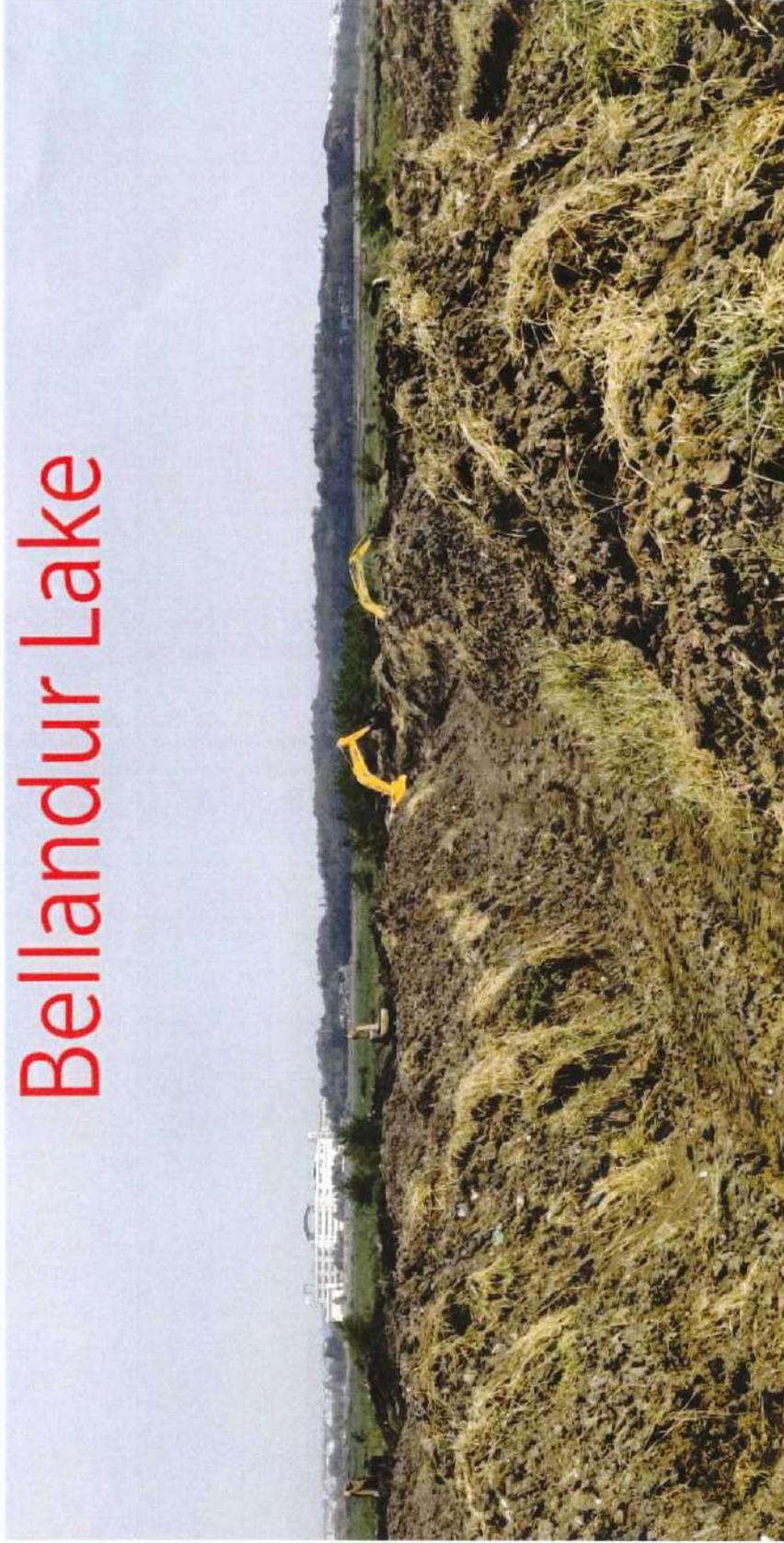
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Bellandur Lake



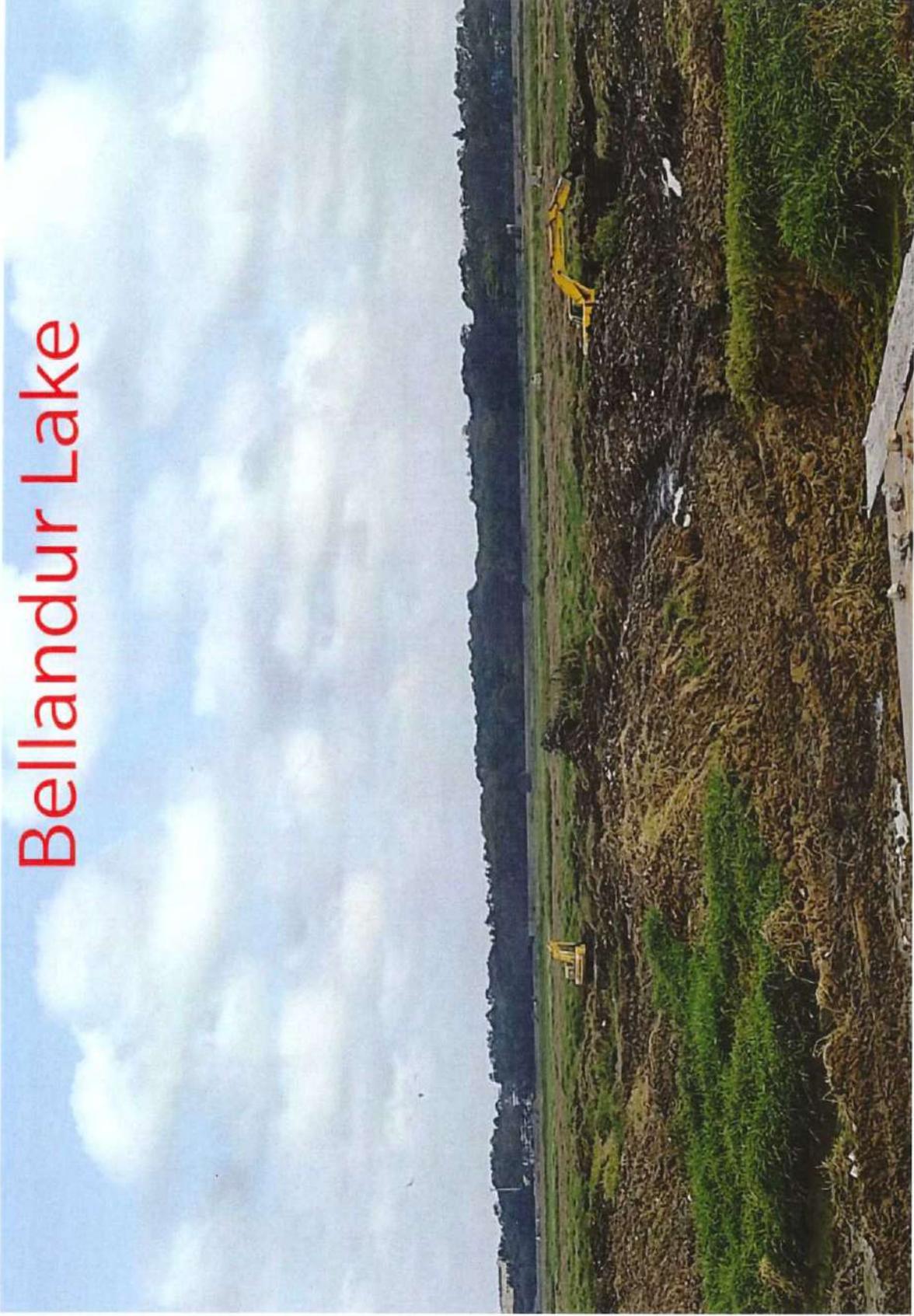
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Bellandur Lake



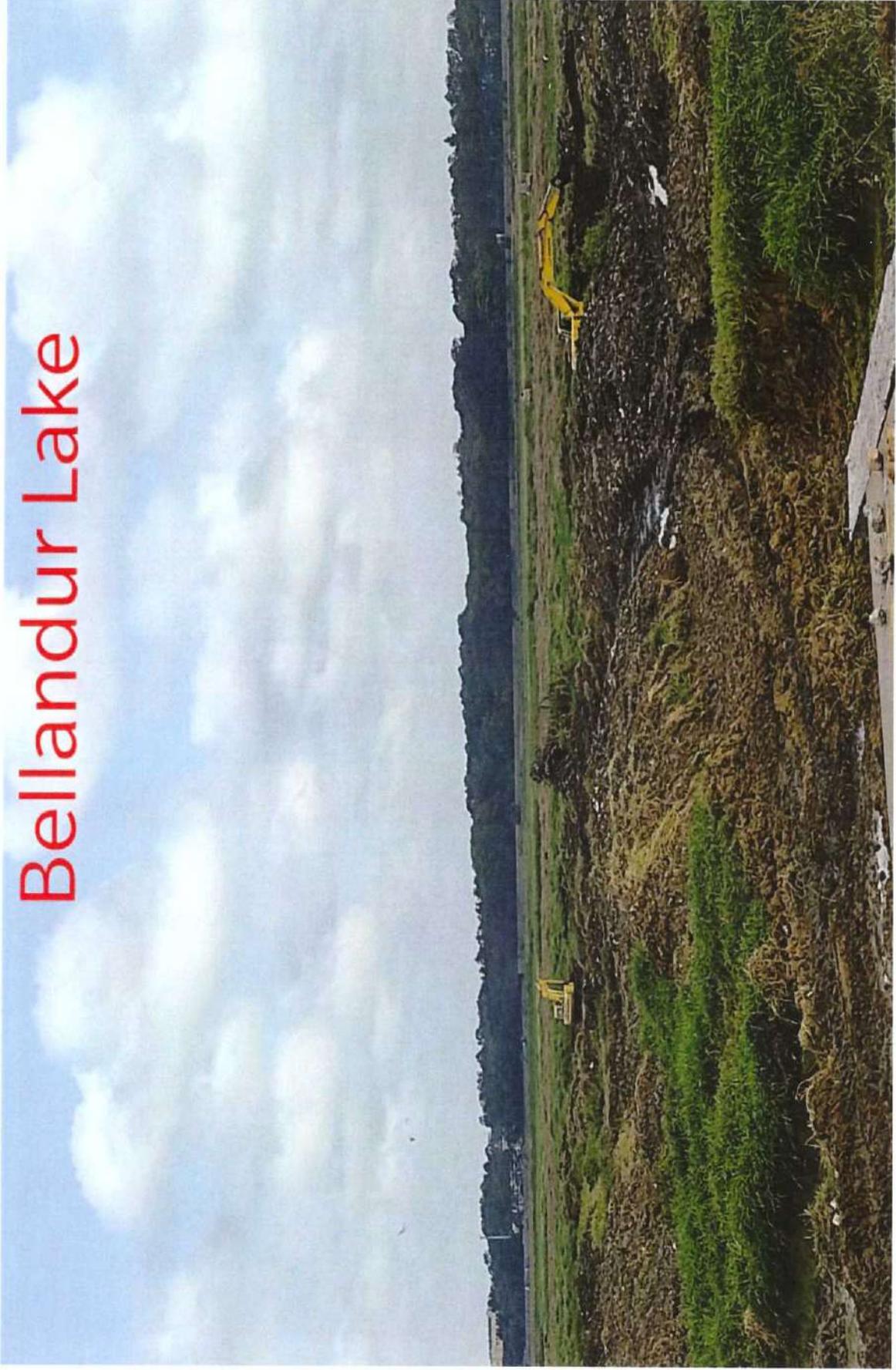
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Bellandur Lake



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Bellandur Lake



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ANNEXURE-R-17

Sl.No.	Sample Location	Sample location-- GPS reading	Sample Code No	Beryllium	Boron	Vanadium	Chromium	Manganese	Iron	Cobalt	Nickel	Copper	Zinc
	Compost standard												
	Standards Volume II-2.1 Soil Screening and response level Agricultural mg/kg												
1	1	12°55'54"N		4	2	130	50				50	300	1000
2	1A	77°38'32"E											
3	1B												
4	02 Bellandur Lake-Top soil		EN20120052-04	BLQ-(LOQ-1)	BLQ-(LOQ-1)	33.32	18.86	135.99	17409	8.95	12.49	20.10	27.42
5	2A	12°55'52"N											
6	2B Bellandur Lake-Bottom soil	77°38'35"E	EN20120052-06	BLQ-(LOQ-1)	BLQ-(LOQ-1)	27.61	20.69	179.77	9985	9.54	13.99	16.13	13.37
7	03 Bellandur Lake-Top soil		EN20120052-07	BLQ-(LOQ-1)	BLQ-(LOQ-1)	26.18	21.92	77.58	7586	4.30	7.01	11.60	20.57
8	3A Bellandur Lake-Middle soil	12°55'50"N	EN20120052-08	BLQ-(LOQ-1)	BLQ-(LOQ-1)	23.96	22.94	39.00	6183	3.67	4.11	7.06	12.89
9	3B Bellandur Lake-Bottom soil	77°38'40"E	EN20120052-09	BLQ-(LOQ-1)	BLQ-(LOQ-1)	26.79	20.82	82.61	8320	4.22	4.48	7.58	7.24
10	04 Bellandur Lake-Top soil		EN20120052-10	BLQ-(LOQ-1)	BLQ-(LOQ-1)	31.56	18.25	56.14	15488	8.17	11.95	18.96	32.46
11	4A Bellandur Lake-Middle soil	12°55'53"N	EN20120052-11	BLQ-(LOQ-1)	BLQ-(LOQ-1)	32.11	19.16	72.30	13980	8.76	11.93	18.65	19.18
12	4B Bellandur Lake-Bottom soil	77°38'38"E	EN20120052-12	BLQ-(LOQ-1)	BLQ-(LOQ-1)	32.31	16.27	152.97	9482	10.01	11.76	14.18	12.96
13	05 Bellandur Lake-Top soil		EN20120052-13	BLQ-(LOQ-1)	BLQ-(LOQ-1)	28.83	23.40	86.08	9458	9.65	10.03	14.12	18.07
14	5A Bellandur Lake-Middle soil	12°55'45"N	EN20120052-14	BLQ-(LOQ-1)	BLQ-(LOQ-1)	21.61	13.37	33.69	5588	4.98	5.80	8.44	8.42
15	5B Bellandur Lake-Bottom soil	77°38'43"E	EN20120052-15	BLQ-(LOQ-1)	BLQ-(LOQ-1)	30.43	16.49	105.24	8700	10.67	12.13	16.20	13.24
16	06 Bellandur Lake-Top soil		EN20120052-16	BLQ-(LOQ-1)	BLQ-(LOQ-1)	27.99	21.05	146.02	9646	9.22	14.03	12.00	23.97
17	6A Bellandur Lake-Middle soil	12°55'55"N	EN20120052-17	BLQ-(LOQ-1)	BLQ-(LOQ-1)	31.05	19.56	#####	11643	26.83	15.44	11.83	13.49
18	6B Bellandur Lake-Bottom soil	77°38'47"E	EN20120052-18	BLQ-(LOQ-1)	BLQ-(LOQ-1)	23.09	16.43	526.27	6485	11.30	19.38	11.94	12.83
19	07 Bellandur Lake-Top soil	12°55'52"N	EN20120052-19	BLQ-(LOQ-1)	BLQ-(LOQ-1)	34.75	23.83	158.29	13918	9.49	14.90	20.00	19.06

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20	7A Bellandur Lake-Middle soil	77°38'48"E	EN20120052-20	BLQ-(LOQ-1)	BLQ-(LOQ-1)	18.49	10.67	54.86	4918	5.95	8.24	8.92	8.90
21	7B Bellandur Lake-Bottom soil		EN20120052-21	BLQ-(LOQ-1)	BLQ-(LOQ-1)	30.54	17.53	72.16	8434	9.06	13.43	18.21	21.89
22	08 Bellandur Lake-Top soil		EN20120052-22	BLQ-(LOQ-1)	BLQ-(LOQ-1)	17.74	10.22	397.43	4610	7.93	7.03	8.86	6.96
23	8A Bellandur Lake-Middle soil	12°55'55"N 77°38'53"E	EN20120052-23	BLQ-(LOQ-1)	BLQ-(LOQ-1)	31.96	21.61	73.03	9115	10.13	15.86	21.31	26.28
24	8B Bellandur Lake-Bottom soil		EN20120052-24	BLQ-(LOQ-1)	BLQ-(LOQ-1)	24.44	20.51	#####	8286	13.18	14.28	12.35	12.69
25	09 Bellandur Lake-Top soil		EN20120052-25	BLQ-(LOQ-1)	BLQ-(LOQ-1)	26.66	22.68	154.53	7377	10.10	13.40	12.67	12.96
26	9A Bellandur Lake-Middle soil	12°55'55"N 77°38'56"E	EN20120052-26	BLQ-(LOQ-1)	BLQ-(LOQ-1)	22.08	10.19	463.88	5035	14.63	15.38	11.78	9.66
27	9B Bellandur Lake-Bottom soil		EN20120052-27	BLQ-(LOQ-1)	BLQ-(LOQ-1)	20.64	10.09	819.43	4608	19.28	17.94	10.94	10.18
28	10 Bellandur Lake-Top soil	12°55'54"N 77°38'59"E	EN20120052-28	BLQ-(LOQ-1)	BLQ-(LOQ-1)	25.13	14.46	82.00	5832	9.09	9.43	14.68	18.72
29	10A												
30	10B Bellandur Lake-Bottom soil		EN20120052-30	BLQ-(LOQ-1)	BLQ-(LOQ-1)	18.90	9.46	800.07	3861	17.74	13.32	9.48	7.46
31	11 Bellandur Lake-Top soil		EN20120052-31	BLQ-(LOQ-1)	BLQ-(LOQ-1)	36.15	24.80	203.49	13635	10.23	13.95	17.62	16.02
32	11A Bellandur Lake-Middle soil	12°55'55"N 77°39'42"E	EN20120052-32	BLQ-(LOQ-1)	BLQ-(LOQ-1)	31.79	26.64	87.42	9610	9.61	12.83	15.76	17.37
33	11B Bellandur Lake-Bottom soil		EN20120052-33	BLQ-(LOQ-1)	BLQ-(LOQ-1)	26.85	19.51	#####	10999	15.69	13.35	10.72	10.68
34	12 Bellandur Lake-Top soil		EN20120052-34	BLQ-(LOQ-1)	BLQ-(LOQ-1)	19.46	23.07	59.36	5390	5.24	4.81	7.52	8.26
35	12A Bellandur Lake-Middle soil	12°55'59"N 77°39'04"E	EN20120052-35	BLQ-(LOQ-1)	BLQ-(LOQ-1)	34.50	24.51	67.77	9005	8.48	10.02	13.31	10.49
36	12B Bellandur Lake-Bottom soil		EN20120052-36	BLQ-(LOQ-1)	BLQ-(LOQ-1)	29.85	25.73	71.99	8327	6.80	7.88	8.96	8.33
37	13 Bellandur Lake-Top soil		EN20120052-37	BLQ-(LOQ-1)	BLQ-(LOQ-1)	17.75	21.11	35.91	3986	3.20	5.74	7.05	20.21
38	13A Bellandur Lake-Middle soil	12°55'00"N 77°39'13"E	EN20120052-38	BLQ-(LOQ-1)	BLQ-(LOQ-1)	9.48	7.33	26.47	2854	2.34	3.18	3.43	3.15
39	13B Bellandur Lake-Bottom soil		EN20120052-39	BLQ-(LOQ-1)	BLQ-(LOQ-1)	12.16	15.40	36.61	3915	2.40	2.71	5.28	3.45
40	14 Bellandur Lake-Top soil		EN20120052-40	BLQ-(LOQ-1)	BLQ-(LOQ-1)	16.25	18.45	40.69	5233	2.95	4.49	6.94	4.41
41	14A Bellandur Lake-Middle soil	12°55'59"N 77°39'13"E	EN20120052-41	BLQ-(LOQ-1)	BLQ-(LOQ-1)	21.02	31.18	78.00	7250	3.54	4.60	7.55	5.25
42	14B Bellandur Lake-Bottom soil		EN20120052-42	BLQ-(LOQ-1)	BLQ-(LOQ-1)	7.83	9.14	15.51	2068	1.43	1.66	3.47	1.53

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Asenit	Selenium	Molybdenum	Silver	Cadmium	Tin	Antimony	Barium	Mercury	Thallium	Lead	Hexavalent Chromium	Number of parameters exceeded
10				5				0.15				
12	1	5	20	1,4	5	20	750	6,6	1	70	0,4	
3.62	2.77	BLQ-(LOQ-1)	4.18	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	44.45	BLQ-(LOQ-1)	BLQ-(LOQ-1)	14.92	BDL (DL: 0.1)	1
1.95	1.49	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	98.54	BLQ-(LOQ-1)	BLQ-(LOQ-1)	13.88	BDL (DL: 0.1)	1
1.35	BLQ-(LOQ-1)	BLQ-(LOQ-1)	4.63	BLQ-(LOQ-1)	3.46	BLQ-(LOQ-1)	40.27	BLQ-(LOQ-1)	BLQ-(LOQ-1)	8.67	BDL (DL: 0.1)	0
1.18	BLQ-(LOQ-1)	BLQ-(LOQ-1)	1.27	BLQ-(LOQ-1)	8.93	BLQ-(LOQ-1)	18.59	BLQ-(LOQ-1)	BLQ-(LOQ-1)	13.16	BDL (DL: 0.1)	2
1.10	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	2.32	BLQ-(LOQ-1)	35.72	BLQ-(LOQ-1)	BLQ-(LOQ-1)	7.66	BDL (DL: 0.1)	0
2.80	2.38	BLQ-(LOQ-1)	3.33	BLQ-(LOQ-1)	12.78	BLQ-(LOQ-1)	57.64	BLQ-(LOQ-1)	BLQ-(LOQ-1)	14.14	BDL (DL: 0.1)	2
2.53	2.39	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	11.06	BLQ-(LOQ-1)	81.33	BLQ-(LOQ-1)	BLQ-(LOQ-1)	14.27	BDL (DL: 0.1)	2
2.22	1.70	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	4.71	BLQ-(LOQ-1)	76.10	BLQ-(LOQ-1)	BLQ-(LOQ-1)	15.31	BDL (DL: 0.1)	1
2.14	1.37	BLQ-(LOQ-1)	3.86	BLQ-(LOQ-1)	37.41	BLQ-(LOQ-1)	56.13	BLQ-(LOQ-1)	BLQ-(LOQ-1)	15.85	BDL (DL: 0.1)	2
BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	8.02	BLQ-(LOQ-1)	61.40	BLQ-(LOQ-1)	BLQ-(LOQ-1)	10.99	BDL (DL: 0.1)	1
2.07	1.56	BLQ-(LOQ-1)	1.39	BLQ-(LOQ-1)	10.84	BLQ-(LOQ-1)	117.90	BLQ-(LOQ-1)	BLQ-(LOQ-1)	16.16	BDL (DL: 0.1)	2
1.84	1.39	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	112.31	BLQ-(LOQ-1)	BLQ-(LOQ-1)	11.89	BDL (DL: 0.1)	1
3.76	2.67	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	207.58	BLQ-(LOQ-1)	BLQ-(LOQ-1)	21.73	BDL (DL: 0.1)	1
2.15	1.52	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	4.23	BLQ-(LOQ-1)	139.36	BLQ-(LOQ-1)	BLQ-(LOQ-1)	13.83	BDL (DL: 0.1)	1
2.89	2.50	BLQ-(LOQ-1)	1.16	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	80.61	BLQ-(LOQ-1)	BLQ-(LOQ-1)	14.97	BDL (DL: 0.1)	1
1.35	1.09	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	85.62	BLQ-(LOQ-1)	BLQ-(LOQ-1)	9.54	BDL (DL: 0.1)	1

2.17	1.79	BLQ-(LOQ-1)	4.26	BLQ-(LOQ-1)	1.37	BLQ-(LOQ-1)	104.65	BLQ-(LOQ-1)	BLQ-(LOQ-1)	13.84	BDL (DL: 0.1)	1
1.87	1.26	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	4.97	BLQ-(LOQ-1)	148.62	BLQ-(LOQ-1)	BLQ-(LOQ-1)	10.33	BDL (DL: 0.1)	1
2.17	1.93	BLQ-(LOQ-1)	10.55	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	116.66	BLQ-(LOQ-1)	BLQ-(LOQ-1)	14.11	BDL (DL: 0.1)	1
1.45	2.04	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	156.27	BLQ-(LOQ-1)	BLQ-(LOQ-1)	12.85	BDL (DL: 0.1)	1
2.23	1.79	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	7.85	BLQ-(LOQ-1)	142.11	BLQ-(LOQ-1)	BLQ-(LOQ-1)	11.52	BDL (DL: 0.1)	2
2.32	2.25	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	5.94	BLQ-(LOQ-1)	242.93	BLQ-(LOQ-1)	BLQ-(LOQ-1)	19.24	BDL (DL: 0.1)	2
1.71	1.41	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	242.69	BLQ-(LOQ-1)	BLQ-(LOQ-1)	14.38	BDL (DL: 0.1)	1
1.81	1.24	BLQ-(LOQ-1)	4.77	BLQ-(LOQ-1)	6.70	BLQ-(LOQ-1)	117.81	BLQ-(LOQ-1)	BLQ-(LOQ-1)	14.93	BDL (DL: 0.1)	2
1.89	2.08	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	223.76	BLQ-(LOQ-1)	BLQ-(LOQ-1)	14.83	BDL (DL: 0.1)	1
2.66	1.72	BLQ-(LOQ-1)	2.08	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	67.69	BLQ-(LOQ-1)	BLQ-(LOQ-1)	12.01	BDL (DL: 0.1)	1
2.20	1.79	BLQ-(LOQ-1)	1.84	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	78.05	BLQ-(LOQ-1)	BLQ-(LOQ-1)	11.37	BDL (DL: 0.1)	1
3.06	2.62	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	137.09	BLQ-(LOQ-1)	BLQ-(LOQ-1)	10.15	BDL (DL: 0.1)	1
1.24	BLQ-(LOQ-1)	BLQ-(LOQ-1)	1.11	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	18.91	BLQ-(LOQ-1)	BLQ-(LOQ-1)	7.03	BDL (DL: 0.1)	0
2.32	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	6.07	BLQ-(LOQ-1)	19.23	BLQ-(LOQ-1)	BLQ-(LOQ-1)	13.31	BDL (DL: 0.1)	1
2.49	1.95	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	17.51	BLQ-(LOQ-1)	BLQ-(LOQ-1)	6.50	BDL (DL: 0.1)	1
1.15	BLQ-(LOQ-1)	BLQ-(LOQ-1)	3.20	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	21.39	BLQ-(LOQ-1)	BLQ-(LOQ-1)	4.60	BDL (DL: 0.1)	1
BLQ-(LOQ-1)	32.14	BLQ-(LOQ-1)	BLQ-(LOQ-1)	4.36	BDL (DL: 0.1)	0						
BLQ-(LOQ-1)	21.35	BLQ-(LOQ-1)	BLQ-(LOQ-1)	5.60	BDL (DL: 0.1)	0						
1.26	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	22.98	BLQ-(LOQ-1)	BLQ-(LOQ-1)	5.90	BDL (DL: 0.1)	0
1.42	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	25.14	BLQ-(LOQ-1)	BLQ-(LOQ-1)	6.96	BDL (DL: 0.1)	0
BLQ-(LOQ-1)	20.24	BLQ-(LOQ-1)	BLQ-(LOQ-1)	3.93	BDL (DL: 0.1)	0						

65	22A Bellandur Lake-Middle soil	77°39'36"E	EN20120052-65	BLQ-(LOQ-1)	1)	BLQ-(LOQ-1)	29.17	22.36	239.72	8451	8.46	16.23	14.83	13.57
66	22B Bellandur Lake-Bottom soil		EN20120052-66	BLQ-(LOQ-1)	1)	BLQ-(LOQ-1)	33.48	18.21	158.33	8926	7.32	14.94	15.30	10.43
67	23 Bellandur Lake-Top soil	12°56'17"N 77°39'40"E	EN20120052-67	BLQ-(LOQ-1)	1)	BLQ-(LOQ-1)	19.00	24.51	37.15	5194	2.50	11.82	34.51	101.22
68	23A Bellandur Lake-Middle soil		EN20120052-68	BLQ-(LOQ-1)	1)	BLQ-(LOQ-1)	23.53	23.99	49.61	6150	3.14	15.40	50.35	146.52
69	23B Bellandur Lake-Bottom soil		EN20120052-69	BLQ-(LOQ-1)	1)	BLQ-(LOQ-1)	32.07	23.20	42.68	13032	3.76	11.54	12.90	12.97
70	24 Bellandur Lake-Top soil	12°56'25"N 77°39'41"E	EN20120052-70	BLQ-(LOQ-1)	1)	BLQ-(LOQ-1)	16.29	31.71	36.77	4854	4.30	56.89	73.78	161.80
71	24A Bellandur Lake-Middle soil		EN20120052-71	BLQ-(LOQ-1)	1)	BLQ-(LOQ-1)	15.25	26.87	47.32	5683	4.02	64.65	58.51	164.88
72	24B Bellandur Lake-Bottom soil		EN20120052-72	BLQ-(LOQ-1)	1)	BLQ-(LOQ-1)	35.36	88.11	110.24	12807	10.53	124.87	134.62	330.14
73	25 Bellandur Lake-Top soil	12°56'29"N 77°39'38"E	EN20120052-73	BLQ-(LOQ-1)	1)	BLQ-(LOQ-1)	9.98	21.30	28.95	3334	1.90	19.57	31.30	69.06
74	25A Bellandur Lake-Middle soil		EN20120052-74	BLQ-(LOQ-1)	1)	BLQ-(LOQ-1)	21.02	19.84	33.46	5033	2.90	4.65	6.39	5.68
75	25B Bellandur Lake-Bottom soil		EN20120052-75	BLQ-(LOQ-1)	1)	BLQ-(LOQ-1)	17.56	21.71	40.67	5996	2.74	4.34	6.18	4.73
76	26 Bellandur Lake-Top soil	12°56'34"N 77°39'36"E	EN20120052-76	BLQ-(LOQ-1)	1)	BLQ-(LOQ-1)	34.54	26.58	127.54	10681	7.57	12.97	26.92	51.61
77	26A Bellandur Lake-Middle soil		EN20120052-77	BLQ-(LOQ-1)	1)	BLQ-(LOQ-1)	24.89	13.15	95.89	5072	10.44	9.67	10.81	7.81
78	26B Bellandur Lake-Bottom soil		EN20120052-78	BLQ-(LOQ-1)	1)	BLQ-(LOQ-1)	27.31	12.14	160.59	5482	9.69	16.91	11.36	10.15
79	27 Bellandur Lake-Top soil	12°56'40"N 77°39'38"E	EN20120052-79	BLQ-(LOQ-1)	1)	BLQ-(LOQ-1)	29.87	28.49	69.19	12415	8.32	13.71	29.55	52.17
80	27A Bellandur Lake-Middle soil		EN20120052-80	BLQ-(LOQ-1)	1)	BLQ-(LOQ-1)	26.22	25.15	65.43	7408	4.50	11.90	39.13	118.42
81	27B Bellandur Lake-Bottom soil		EN20120052-81	BLQ-(LOQ-1)	1)	BLQ-(LOQ-1)	26.02	21.75	47.58	7292	6.14	5.89	7.64	6.16
82	28 Bellandur Lake-Top soil	12°56'37"N 77°39'42"E	EN20120052-82	BLQ-(LOQ-1)	1)	BLQ-(LOQ-1)	25.37	22.23	62.53	8012	3.76	7.10	14.65	28.10
83	28A Bellandur Lake-Middle soil		EN20120052-83	BLQ-(LOQ-1)	1)	BLQ-(LOQ-1)	38.13	22.55	102.90	10332	7.84	10.06	46.91	35.11
84	28B Bellandur Lake-Bottom soil		EN20120052-84	BLQ-(LOQ-1)	1)	BLQ-(LOQ-1)	18.44	8.76	150.61	4792	9.59	10.27	7.86	9.19
85	29 Bellandur Lake-Top soil	12°56'33"N 77°39'47"E	EN20120052-85	BLQ-(LOQ-1)	1)	BLQ-(LOQ-1)	29.67	30.21	122.45	8069	6.07	23.91	96.27	181.16
86	29A Bellandur Lake-Middle soil		EN20120052-86	BLQ-(LOQ-1)	1)	BLQ-(LOQ-1)	37.18	33.39	134.65	13338	9.12	27.76	151.23	474.59

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1.17	BLQ-(LOQ-1)	BLQ-(LOQ-1)	9.88	BLQ-(LOQ-1)	BLQ-(LOQ-1)	30.88	BLQ-(LOQ-1)	BLQ-(LOQ-1)	8.12	BDL (DL: 0.1)	0
2.36	BLQ-(LOQ-1)	BLQ-(LOQ-1)	2.18	BLQ-(LOQ-1)	BLQ-(LOQ-1)	278.37	BLQ-(LOQ-1)	BLQ-(LOQ-1)	11.06	BDL (DL: 0.1)	0
BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	1.38	BLQ-(LOQ-1)	BLQ-(LOQ-1)	10.25	BLQ-(LOQ-1)	BLQ-(LOQ-1)	3.30	BDL (DL: 0.1)	0
BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	1.38	BLQ-(LOQ-1)	BLQ-(LOQ-1)	24.51	BLQ-(LOQ-1)	BLQ-(LOQ-1)	4.54	BDL (DL: 0.1)	0
1.10	BLQ-(LOQ-1)	BLQ-(LOQ-1)	1.38	BLQ-(LOQ-1)	BLQ-(LOQ-1)	34.61	BLQ-(LOQ-1)	BLQ-(LOQ-1)	6.08	BDL (DL: 0.1)	0
2.32	1.23	BLQ-(LOQ-1)	1.38	BLQ-(LOQ-1)	BLQ-(LOQ-1)	223.30	BLQ-(LOQ-1)	BLQ-(LOQ-1)	15.49	BDL (DL: 0.1)	0
1.73	BLQ-(LOQ-1)	BLQ-(LOQ-1)	2.06	BLQ-(LOQ-1)	BLQ-(LOQ-1)	109.83	BLQ-(LOQ-1)	BLQ-(LOQ-1)	7.45	BDL (DL: 0.1)	1
1.68	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	101.75	BLQ-(LOQ-1)	BLQ-(LOQ-1)	8.02	BDL (DL: 0.1)	0
1.90	BLQ-(LOQ-1)	BLQ-(LOQ-1)	40.50	1.45	BLQ-(LOQ-1)	71.12	BLQ-(LOQ-1)	BLQ-(LOQ-1)	16.37	BDL (DL: 0.1)	1
2.19	BLQ-(LOQ-1)	BLQ-(LOQ-1)	58.66	2.20	BLQ-(LOQ-1)	100.21	BLQ-(LOQ-1)	BLQ-(LOQ-1)	20.18	BDL (DL: 0.1)	1
3.42	BLQ-(LOQ-1)	BLQ-(LOQ-1)	2.92	BLQ-(LOQ-1)	BLQ-(LOQ-1)	39.71	BLQ-(LOQ-1)	BLQ-(LOQ-1)	9.15	BDL (DL: 0.1)	0
1.54	BLQ-(LOQ-1)	BLQ-(LOQ-1)	78.84	BLQ-(LOQ-1)	BLQ-(LOQ-1)	106.72	BLQ-(LOQ-1)	BLQ-(LOQ-1)	199.86	BDL (DL: 0.1)	4
1.40	BLQ-(LOQ-1)	BLQ-(LOQ-1)	53.72	BLQ-(LOQ-1)	BLQ-(LOQ-1)	146.89	BLQ-(LOQ-1)	BLQ-(LOQ-1)	26.65	BDL (DL: 0.1)	2
3.67	1.43	7.00	129.98	BLQ-(LOQ-1)	BLQ-(LOQ-1)	267.44	BLQ-(LOQ-1)	BLQ-(LOQ-1)	85.21	BDL (DL: 0.1)	9
BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	33.50	BLQ-(LOQ-1)	BLQ-(LOQ-1)	60.37	BLQ-(LOQ-1)	BLQ-(LOQ-1)	16.06	BDL (DL: 0.1)	1
BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	22.36	BLQ-(LOQ-1)	BLQ-(LOQ-1)	6.65	BDL (DL: 0.1)	0
1.06	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	19.06	BLQ-(LOQ-1)	BLQ-(LOQ-1)	5.49	BDL (DL: 0.1)	0
2.20	1.33	BLQ-(LOQ-1)	18.05	BLQ-(LOQ-1)	BLQ-(LOQ-1)	95.62	BLQ-(LOQ-1)	BLQ-(LOQ-1)	43.95	BDL (DL: 0.1)	1
1.58	1.16	BLQ-(LOQ-1)	3.38	BLQ-(LOQ-1)	BLQ-(LOQ-1)	139.45	BLQ-(LOQ-1)	BLQ-(LOQ-1)	13.14	BDL (DL: 0.1)	2
2.29	1.72	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	282.80	BLQ-(LOQ-1)	BLQ-(LOQ-1)	16.45	BDL (DL: 0.1)	1
2.40	BLQ-(LOQ-1)	BLQ-(LOQ-1)	17.43	BLQ-(LOQ-1)	BLQ-(LOQ-1)	69.91	BLQ-(LOQ-1)	BLQ-(LOQ-1)	16.67	BDL (DL: 0.1)	0

1.71	BLQ-(LOQ-1)	BLQ-(LOQ-1)	46.00	BLQ-(LOQ-1)	BLQ-(LOQ-1)	117.37	BLQ-(LOQ-1)	BLQ-(LOQ-1)	20.30	BDL (DL: 0.1)	1
1.19	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	5.34	BLQ-(LOQ-1)	25.35	BLQ-(LOQ-1)	BLQ-(LOQ-1)	7.91	BDL (DL: 0.1)	1
1.60	BLQ-(LOQ-1)	BLQ-(LOQ-1)	3.83	BLQ-(LOQ-1)	BLQ-(LOQ-1)	68.83	BLQ-(LOQ-1)	BLQ-(LOQ-1)	15.60	BDL (DL: 0.1)	0
1.78	1.25	BLQ-(LOQ-1)	5.03	BLQ-(LOQ-1)	BLQ-(LOQ-1)	89.27	BLQ-(LOQ-1)	BLQ-(LOQ-1)	17.02	BDL (DL: 0.1)	2
1.27	1.07	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	158.47	BLQ-(LOQ-1)	BLQ-(LOQ-1)	11.36	BDL (DL: 0.1)	1
4.84	1.22	2.73	83.14	BLQ-(LOQ-1)	BLQ-(LOQ-1)	148.80	BLQ-(LOQ-1)	BLQ-(LOQ-1)	48.08	BDL (DL: 0.1)	3
4.17	2.12	5.10	279.93	1.40	BLQ-(LOQ-1)	278.14	BLQ-(LOQ-1)	BLQ-(LOQ-1)	63.65	BDL (DL: 0.1)	6
2.40	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	146.83	BLQ-(LOQ-1)	BLQ-(LOQ-1)	12.37	BDL (DL: 0.1)	0
3.31	1.38	4.67	200.50	1.12	BLQ-(LOQ-1)	262.83	BLQ-(LOQ-1)	BLQ-(LOQ-1)	68.11	BDL (DL: 0.1)	5
1.37	1.13	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	33.31	BLQ-(LOQ-1)	BLQ-(LOQ-1)	8.14	BDL (DL: 0.1)	1
1.87	1.05	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	105.53	BLQ-(LOQ-1)	BLQ-(LOQ-1)	8.16	BDL (DL: 0.1)	1
3.06	BLQ-(LOQ-1)	1.40	55.18	BLQ-(LOQ-1)	BLQ-(LOQ-1)	125.76	BLQ-(LOQ-1)	BLQ-(LOQ-1)	30.18	BDL (DL: 0.1)	3
0.85	BLQ-(LOQ-1)	BLQ-(LOQ-1)	1.16	BLQ-(LOQ-1)	BLQ-(LOQ-1)	29.37	BLQ-(LOQ-1)	BLQ-(LOQ-1)	8.94	BDL (DL: 0.1)	0
1.59	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	44.68	BLQ-(LOQ-1)	BLQ-(LOQ-1)	8.39	BDL (DL: 0.1)	0

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94	32 Bellandur Lake-Top soil	12°56'22"N 77°40'04"E	EN20120052-94	BLQ-(LOQ-1)	BLQ-(LOQ-1)	33.88	30.87	369.23	14098	24.11	14.31	15.94	3.94
95	32A Bellandur Lake-Middle soil		EN20120052-95	BLQ-(LOQ-1)	BLQ-(LOQ-1)	32.67	27.92	369.98	13460	20.68	10.42	15.26	3.40
96	32B Bellandur Lake-Bottom soil		EN20120052-96	BLQ-(LOQ-1)	BLQ-(LOQ-1)	34.61	21.14	545.27	13687	17.17	12.11	18.14	4.57
97	33 Bellandur Lake-Top soil	12°56'19"N 77°40'08"E	EN20120052-97	BLQ-(LOQ-1)	BLQ-(LOQ-1)	38.94	30.97	317.43	18179	16.40	15.01	20.03	7.15
98	33A Bellandur Lake-Middle soil		EN20120052-98	BLQ-(LOQ-1)	BLQ-(LOQ-1)	37.59	22.32	76.12	10334	5.58	9.87	18.53	29.99
99	33B Bellandur Lake-Bottom soil		EN20120052-99	BLQ-(LOQ-1)	BLQ-(LOQ-1)	42.25	30.81	137.19	12473	13.17	10.46	13.57	6.80
100	34 Bellandur Lake-Top soil	12°56'20"N 77°40'13"E	EN20120052-100	BLQ-(LOQ-1)	BLQ-(LOQ-1)	26.77	24.67	81.52	8518	4.58	10.34	11.72	7.29
101	34A Bellandur Lake-Middle soil		EN20120052-101	BLQ-(LOQ-1)	BLQ-(LOQ-1)	28.99	27.13	458.07	15184	9.49	12.08	15.66	8.84
102	34B Bellandur Lake-Bottom soil		EN20120052-102	BLQ-(LOQ-1)	BLQ-(LOQ-1)	20.56	29.26	408.67	12345	7.89	10.67	13.78	7.88
103	35 Bellandur Lake-Top soil	12°56'23"N 77°40'15"E	EN20120052-103	BLQ-(LOQ-1)	BLQ-(LOQ-1)	25.04	14.82	34.24	8060	3.44	6.01	6.57	2.86
104	35A Bellandur Lake-Middle soil		EN20120052-104	BLQ-(LOQ-1)	BLQ-(LOQ-1)	35.89	20.95	43.08	11309	6.71	7.61	10.08	3.34
105	35B Bellandur Lake-Bottom soil		EN20120052-105	BLQ-(LOQ-1)	BLQ-(LOQ-1)	31.18	29.25	49.30	13708	9.79	10.24	12.81	5.77
106	36 Bellandur Lake-Top soil	12°56'25"N 77°40'19"E	EN20120052-106	BLQ-(LOQ-1)	BLQ-(LOQ-1)	26.46	15.21	48.04	6319	7.76	6.43	9.34	7.53
107	36A Bellandur Lake-Middle soil		EN20120052-107	BLQ-(LOQ-1)	BLQ-(LOQ-1)	18.29	17.39	41.35	4925	3.16	5.03	5.95	5.35
108	36B Bellandur Lake-Bottom soil		EN20120052-108	BLQ-(LOQ-1)	BLQ-(LOQ-1)	15.27	12.18	30.44	3207	2.24	3.06	4.48	2.10
109	37 Bellandur Lake-Top soil	12°56'29"N 77°40'22"E	EN20120052-109	BLQ-(LOQ-1)	BLQ-(LOQ-1)	26.33	26.88	55.02	6744	4.24	9.12	14.09	20.89
110	37A Bellandur Lake-Middle soil		EN20120052-110	BLQ-(LOQ-1)	BLQ-(LOQ-1)	22.13	23.96	90.66	5895	4.01	5.72	9.96	11.23
111	37B Bellandur Lake-Bottom soil		EN20120052-111	BLQ-(LOQ-1)	BLQ-(LOQ-1)	33.11	100.90	150.99	13736	7.95	74.87	332.49	705.77
112	38 Bellandur Lake-Top soil	12°56'25"N 77°40'28"E	EN20120052-112	BLQ-(LOQ-1)	BLQ-(LOQ-1)	25.75	88.89	98.19	6214	4.73	23.29	40.09	160.94
113	38A Bellandur Lake-Middle soil		EN20120052-113	BLQ-(LOQ-1)	BLQ-(LOQ-1)	24.35	28.12	45.77	6435	4.11	9.58	12.12	17.80
114	38B Bellandur Lake-Bottom soil		EN20120052-114	BLQ-(LOQ-1)	BLQ-(LOQ-1)	36.79	22.85	65.42	13169	7.49	13.49	19.70	11.03
115	39 Bellandur Lake-Top soil	12°56'25"N 77°40'30"E	EN20120052-115	BLQ-(LOQ-1)	BLQ-(LOQ-1)	35.91	23.09	59.80	9350	4.50	11.10	11.00	6.90
116	39A Bellandur Lake-Middle soil		EN20120052-116	BLQ-(LOQ-1)	BLQ-(LOQ-1)	36.89	26.13	58.41	9886	5.27	10.38	12.41	5.82

117	398 Bellandur Lake-Bottom soil		EN20120052-117	BLQ-(LOQ-1)	BLQ-(LOQ-1)	32.43	36.13	96.44	14219	13.96	12.78	15.31	4.75
118	40 Bellandur Lake-Top soil	12°56'27"N 77°40'33"E	EN20120052-118	BLQ-(LOQ-1)	BLQ-(LOQ-1)	32.02	24.03	711.62	13463	41.72	13.26	17.31	3.99
119	40A Bellandur Lake-Middle soil		EN20120052-119	BLQ-(LOQ-1)	BLQ-(LOQ-1)	35.83	15.90	210.39	11142	12.38	6.97	12.90	3.63
120	40B Bellandur Lake-Bottom soil		EN20120052-120	BLQ-(LOQ-1)	BLQ-(LOQ-1)	45.25	26.69	489.59	18202	20.86	12.30	20.32	6.29
121	41 Bellandur Lake-Top soil		EN20120052-121	BLQ-(LOQ-1)	BLQ-(LOQ-1)	40.16	28.37	354.44	18689	14.53	14.12	19.74	6.18
122	41A Bellandur Lake-Middle soil	12°56'24"N 77°40'36"E	EN20120052-122	BLQ-(LOQ-1)	BLQ-(LOQ-1)	25.45	14.00	44.77	7545	7.18	5.55	9.24	1.00
123	41B Bellandur Lake-Bottom soil		EN20120052-123	BLQ-(LOQ-1)	BLQ-(LOQ-1)	33.35	17.83	50.62	10948	9.06	7.19	12.34	1.87
124	42 Bellandur Lake-Top soil	12°56'26"N 77°40'38"E	EN20120052-124	BLQ-(LOQ-1)	BLQ-(LOQ-1)	22.68	19.49	25.66	5970	3.45	5.80	7.37	2.01
125	42A Bellandur Lake-Middle soil		EN20120052-125	BLQ-(LOQ-1)	BLQ-(LOQ-1)	26.54	19.4	47.82	8240	7.14	5.31	9.20	1.14
126	42B Bellandur Lake-Bottom soil		EN20120052-126	BLQ-(LOQ-1)	BLQ-(LOQ-1)	32.99	21.78	60.68	9512	8.97	8.10	11.88	5.87
127	43 Bellandur Lake-Top soil		EN20120052-127	BLQ-(LOQ-1)	BLQ-(LOQ-1)	24.18	16.72	62.87	6998	3.77	5.52	8.53	2.24
128	43A Bellandur Lake-Middle soil	12°56'28"N 77°40'41"E	EN20120052-128	BLQ-(LOQ-1)	BLQ-(LOQ-1)	39.44	27.49	159.14	16897	14.54	11.91	17.72	4.13
129	43B Bellandur Lake-Bottom soil		EN20120052-129	BLQ-(LOQ-1)	BLQ-(LOQ-1)	31.42	21.04	123.86	9586	8.77	7.48	9.34	2.63
130	44 Bellandur Lake-Top soil	12°56'29"N 77°40'45"E	EN20120052-130	BLQ-(LOQ-1)	BLQ-(LOQ-1)	21.60	17.62	164.46	7000	9.65	7.95	12.74	12.16
131	44A Bellandur Lake-Middle soil		EN20120052-131	BLQ-(LOQ-1)	BLQ-(LOQ-1)	37.35	23.33	74.79	13123	6.77	9.79	18.50	3.87
132	44B Bellandur Lake-Bottom soil		EN20120052-132	BLQ-(LOQ-1)	BLQ-(LOQ-1)	26.32	15.35	112.87	7962	7.49	6.54	8.92	2.78
133	45 Bellandur Lake-Top soil		EN20120052-133	BLQ-(LOQ-1)	BLQ-(LOQ-1)	17.64	23.09	50.86	4789	2.99	6.18	13.21	23.81
134	45A Bellandur Lake-Middle soil	12°56'34"N 77°40'49"E	EN20120052-134	BLQ-(LOQ-1)	BLQ-(LOQ-1)	37.75	44.56	75.07	10205	5.98	15.19	25.24	55.92
135	45B Bellandur Lake-Bottom soil		EN20120052-135	BLQ-(LOQ-1)	BLQ-(LOQ-1)	33.84	19.34	100.60	16717	9.02	12.43	19.46	21.62
136	46 Bellandur Lake-Top soil	12°55'56"N 77°40'33"E	EN20120052-136	BLQ-(LOQ-1)	BLQ-(LOQ-1)	31.27	21.89	93.17	9297	8.11	9.87	16.14	9.74
137	46A Bellandur Lake-Middle soil		EN20120052-137	BLQ-(LOQ-1)	BLQ-(LOQ-1)	34.03	20.89	71.14	12631	4.54	7.16	13.45	5.14
138	46B Bellandur Lake-Bottom soil		EN20120052-138	BLQ-(LOQ-1)	BLQ-(LOQ-1)	24.85	12.67	45.89	10268	3.20	5.79	10.99	6.16
139	47 Bellandur Lake-Top soil		EN20120052-139	BLQ-(LOQ-1)	BLQ-(LOQ-1)	19.78	17.56	39.05	5339	6.13	8.09	7.80	6.15

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140	47A Bellandur Lake-Middle soil	77°40'31"E	EN20120052-140	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	33.69	25.09	14638	16.77	15.70	24.13	24.95
141	47B Bellandur Lake-Bottom soil		EN20120052-141	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	34.02	23.60	16991	43.17	18.70	22.24	8.55
142	48 Bellandur Lake-Top soil		EN20120052-142	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	39.75	25.49	14909	25.04	31.09	25.85	10.85
143	48A Bellandur Lake-Middle soil	129°55'57"N 77°40'30"E	EN20120052-143	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	28.13	23.11	10141	14.47	21.50	19.05	9.39
144	48B Bellandur Lake-Bottom soil		EN20120052-144	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	32.94	22.33	13604	18.34	22.59	24.91	22.72

1.49	1.11	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	118.92	BLQ-(LOQ-1)	32.53	BDL (DL: 0.1)	1
3.31	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	115.20	BLQ-(LOQ-1)	24.60	BDL (DL: 0.1)	0
1.19	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	140.58	BLQ-(LOQ-1)	24.51	BDL (DL: 0.1)	1
1.46	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	138.96	BLQ-(LOQ-1)	10.97	BDL (DL: 0.1)	1
2.18	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	60.55	BLQ-(LOQ-1)	10.35	BDL (DL: 0.1)	1
2.56	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	117.01	BLQ-(LOQ-1)	10.98	BDL (DL: 0.1)	0
1.55	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	48.25	BLQ-(LOQ-1)	7.29	BDL (DL: 0.1)	0
3.01	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	82.28	BLQ-(LOQ-1)	10.56	BDL (DL: 0.1)	0
2.45	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	67.98	BLQ-(LOQ-1)	8.78	BDL (DL: 0.1)	0
2.02	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	56.94	BLQ-(LOQ-1)	8.25	BDL (DL: 0.1)	0
1.38	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	99.20	BLQ-(LOQ-1)	11.32	BDL (DL: 0.1)	1
2.73	1.28	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	122.50	BLQ-(LOQ-1)	13.85	BDL (DL: 0.1)	2
1.69	1.12	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	111.99	BLQ-(LOQ-1)	15.04	BDL (DL: 0.1)	1
1.38	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	34.15	BLQ-(LOQ-1)	5.80	BDL (DL: 0.1)	0
BLQ-(LOQ-1)	26.81	BLQ-(LOQ-1)	4.98	BDL (DL: 0.1)	0						
1.85	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	66.03	BLQ-(LOQ-1)	10.39	BDL (DL: 0.1)	0
1.41	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	65.21	BLQ-(LOQ-1)	10.15	BDL (DL: 0.1)	0

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5.84	3.02	9.14	327.78	23.40	15.56	1.57	341.44	BLQ-(LOQ-1)	BLQ-(LOQ-1)	95.72	BDL (DL: 0.1)	10
2.21	BLQ-(LOQ-1)	1.48	51.07	10.91	1.46	BLQ-(LOQ-1)	111.87	BLQ-(LOQ-1)	BLQ-(LOQ-1)	25.43	BDL (DL: 0.1)	3
1.39	BLQ-(LOQ-1)	BLQ-(LOQ-1)	3.92	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	58.19	BLQ-(LOQ-1)	BLQ-(LOQ-1)	6.55	BDL (DL: 0.1)	0
1.26	BLQ-(LOQ-1)	BLQ-(LOQ-1)	3.27	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	72.34	BLQ-(LOQ-1)	BLQ-(LOQ-1)	15.09	BDL (DL: 0.1)	0
2.06	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	68.08	BLQ-(LOQ-1)	BLQ-(LOQ-1)	6.99	BDL (DL: 0.1)	0
1.47	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	89.40	BLQ-(LOQ-1)	BLQ-(LOQ-1)	8.19	BDL (DL: 0.1)	0
3.17	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	105.60	BLQ-(LOQ-1)	BLQ-(LOQ-1)	11.33	BDL (DL: 0.1)	0
2.80	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	183.15	BLQ-(LOQ-1)	BLQ-(LOQ-1)	33.98	BDL (DL: 0.1)	0
2.78	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	110.58	BLQ-(LOQ-1)	BLQ-(LOQ-1)	20.03	BDL (DL: 0.1)	1
3.97	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	195.09	BLQ-(LOQ-1)	BLQ-(LOQ-1)	19.42	BDL (DL: 0.1)	0
3.47	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	100.19	BLQ-(LOQ-1)	BLQ-(LOQ-1)	13.34	BDL (DL: 0.1)	0
1.69	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	68.34	BLQ-(LOQ-1)	BLQ-(LOQ-1)	7.93	BDL (DL: 0.1)	0
2.92	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	83.60	BLQ-(LOQ-1)	BLQ-(LOQ-1)	11.50	BDL (DL: 0.1)	0
1.82	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	47.55	BLQ-(LOQ-1)	BLQ-(LOQ-1)	6.65	BDL (DL: 0.1)	0
2.36	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	48.11	BLQ-(LOQ-1)	BLQ-(LOQ-1)	14.67	BDL (DL: 0.1)	0
2.40	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	78.11	BLQ-(LOQ-1)	BLQ-(LOQ-1)	7.25	BDL (DL: 0.1)	0
1.61	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	54.08	BLQ-(LOQ-1)	BLQ-(LOQ-1)	7.33	BDL (DL: 0.1)	0
3.98	1.57	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	65.15	BLQ-(LOQ-1)	BLQ-(LOQ-1)	10.74	BDL (DL: 0.1)	1
2.02	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	56.85	BLQ-(LOQ-1)	BLQ-(LOQ-1)	7.41	BDL (DL: 0.1)	0
1.74	BLQ-(LOQ-1)	BLQ-(LOQ-1)	2.14	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	103.02	BLQ-(LOQ-1)	BLQ-(LOQ-1)	10.32	BDL (DL: 0.1)	0
3.17	1.40	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	133.80	BLQ-(LOQ-1)	BLQ-(LOQ-1)	9.90	BDL (DL: 0.1)	1
1.93	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	114.55	BLQ-(LOQ-1)	BLQ-(LOQ-1)	9.46	BDL (DL: 0.1)	0

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1.52	BLQ-(LOQ-1)	BLQ-(LOQ-1)	1.24	BLQ-(LOQ-1)	BLQ-(LOQ-1)	163.20	BLQ-(LOQ-1)	BLQ-(LOQ-1)	12.91	BDL (DL: 0.1)	0
BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	1.33	BLQ-(LOQ-1)	BLQ-(LOQ-1)	78.96	BLQ-(LOQ-1)	BLQ-(LOQ-1)	10.22	BDL (DL: 0.1)	0
1.91	1.11	BLQ-(LOQ-1)	1.11	BLQ-(LOQ-1)	BLQ-(LOQ-1)	181.39	BLQ-(LOQ-1)	BLQ-(LOQ-1)	12.57	BDL (DL: 0.1)	1
BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	2.73	BLQ-(LOQ-1)	BLQ-(LOQ-1)	39.94	BLQ-(LOQ-1)	BLQ-(LOQ-1)	7.59	BDL (DL: 0.1)	0
3.71	1.09	BLQ-(LOQ-1)	1.69	BLQ-(LOQ-1)	3.40	289.64	BLQ-(LOQ-1)	BLQ-(LOQ-1)	16.09	BDL (DL: 0.1)	1
0.70	BLQ-(LOQ-1)	BLQ-(LOQ-1)	1.03	BLQ-(LOQ-1)	BLQ-(LOQ-1)	84.34	BLQ-(LOQ-1)	BLQ-(LOQ-1)	6.42	BDL (DL: 0.1)	0
1.85	1.06	2.02	102.28	15.97	BLQ-(LOQ-1)	210.31	BLQ-(LOQ-1)	BLQ-(LOQ-1)	70.57	BDL (DL: 0.1)	5
BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	78.57	3.13	BLQ-(LOQ-1)	143.38	BLQ-(LOQ-1)	BLQ-(LOQ-1)	39.49	BDL (DL: 0.1)	1
1.54	BLQ-(LOQ-1)	BLQ-(LOQ-1)	38.15	BLQ-(LOQ-1)	BLQ-(LOQ-1)	108.38	BLQ-(LOQ-1)	BLQ-(LOQ-1)	21.29	BDL (DL: 0.1)	1
BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	59.75	6.21	BLQ-(LOQ-1)	110.65	BLQ-(LOQ-1)	BLQ-(LOQ-1)	36.88	BDL (DL: 0.1)	2
3.73	1.03	2.07	81.35	1.46	3.72	161.28	BLQ-(LOQ-1)	BLQ-(LOQ-1)	36.87	BDL (DL: 0.1)	3
2.57	1.66	5.41	223.44	25.32	BLQ-(LOQ-1)	195.35	BLQ-(LOQ-1)	BLQ-(LOQ-1)	66.56	BDL (DL: 0.1)	6

196	66 Bellandur Lake-Top soil	12°55'40"N 77°38'54"E	EN20120052-196	BLQ-(LOQ-1)	BLQ-(LOQ-1)	23.45	17.93	534.89	7360	12.92	17.27	27.84	53.83
197	66A Bellandur Lake-Middle soil		EN20120052-197	BLQ-(LOQ-1)	BLQ-(LOQ-1)	23.24	20.05	190.02	6327	8.43	13.97	28.23	47.72
198	66B Bellandur Lake-Bottom soil		EN20120052-198	BLQ-(LOQ-1)	BLQ-(LOQ-1)	40.04	25.36	202.77	15484	11.98	15.90	25.67	20.44
199	67 Bellandur Lake-Top soil	12°55'41"N 77°38'29"E	EN20120052-199	BLQ-(LOQ-1)	BLQ-(LOQ-1)	17.78	11.83	65.28	5888	5.67	7.26	10.79	12.78
200	67A Bellandur Lake-Middle soil		EN20120052-200	BLQ-(LOQ-1)	BLQ-(LOQ-1)	37.40	24.58	147.38	11566	9.26	10.51	19.85	14.99
201	67B Bellandur Lake-Bottom soil		EN20120052-201	BLQ-(LOQ-1)	BLQ-(LOQ-1)	32.94	24.07	44.40	8344	6.78	8.95	18.05	8.59
202	68 Bellandur Lake-Top soil	12°55'43"N 77°39'51"E	EN20120052-202	BLQ-(LOQ-1)	BLQ-(LOQ-1)	28.98	21.78	67.98	9790	8.98	9.89	19.78	12.56
203	68A Bellandur Lake-Middle soil		EN20120052-203	BLQ-(LOQ-1)	BLQ-(LOQ-1)	39.41	28.52	327.27	13388	14.77	18.11	27.12	24.72
204	68B Bellandur Lake-Bottom soil		EN20120052-204	BLQ-(LOQ-1)	BLQ-(LOQ-1)	60.13	47.37	204.65	16276	13.92	22.82	27.94	14.75
205	69 Bellandur Lake-Top soil	12°55'19"N 77°38'47"E	EN20120052-205	BLQ-(LOQ-1)	BLQ-(LOQ-1)	25.74	24.24	123.51	7788	5.25	10.53	26.45	53.19
206	69A Bellandur Lake-Middle soil		EN20120052-206	BLQ-(LOQ-1)	BLQ-(LOQ-1)	39.71	60.94	109.12	11101	6.96	31.93	236.59	417.47
207	69B Bellandur Lake-Bottom soil		EN20120052-207	BLQ-(LOQ-1)	BLQ-(LOQ-1)	20.77	81.50	93.44	6585	4.08	56.81	138.69	478.04
208	70 Bellandur Lake-Top soil	12°55'46"N 77°39'11"E	EN20120052-208	BLQ-(LOQ-1)	BLQ-(LOQ-1)	33.53	18.89	80.44	7509	3.59	12.37	68.33	286.13
209	70A Bellandur Lake-Middle soil		EN20120052-209	BLQ-(LOQ-1)	BLQ-(LOQ-1)	25.58	34.04	61.08	7912	4.29	20.13	125.10	318.90
210	70B Bellandur Lake-Bottom soil		EN20120052-210	BLQ-(LOQ-1)	BLQ-(LOQ-1)	26.78	30.54	70.67	7899	5.80	13.78	76.91	312.78
211	71 Bellandur Lake-Top soil	12°55'45"N 77°39'16"E	EN20120052-211	BLQ-(LOQ-1)	BLQ-(LOQ-1)	27.06	26.13	62.38	7604	4.37	11.35	60.96	338.74
212	71A Bellandur Lake-Middle soil		EN20120052-212	BLQ-(LOQ-1)	BLQ-(LOQ-1)	32.15	23.72	84.50	8087	3.67	13.07	73.39	385.69
213	71B Bellandur Lake-Bottom soil		EN20120052-213	BLQ-(LOQ-1)	BLQ-(LOQ-1)	30.33	18.90	65.62	8876	6.18	7.20	17.17	10.97
214	72 Bellandur Lake-Top soil	12°56'22"N 77°39'53"E	EN20120052-214	BLQ-(LOQ-1)	BLQ-(LOQ-1)	17.48	11.65	36.75	4893	3.96	4.27	7.40	3.82
215	72A Bellandur Lake-Middle soil		EN20120052-215	BLQ-(LOQ-1)	BLQ-(LOQ-1)	25.60	66.60	86.87	7808	4.67	37.98	101.61	285.74
216	72B Bellandur Lake-Bottom soil		EN20120052-216	BLQ-(LOQ-1)	BLQ-(LOQ-1)	15.22	12.14	69.18	4585	2.89	4.49	9.62	12.73
217	73 Bellandur Lake-Top soil	12°55'48"N 77°39'21"E	EN20120052-217	BLQ-(LOQ-1)	BLQ-(LOQ-1)	20.86	17.81	74.69	6805	5.17	4.52	8.79	3.96
218	73A Bellandur Lake-Middle soil		EN20120052-218	BLQ-(LOQ-1)	BLQ-(LOQ-1)	12.97	38.30	46.50	4063	2.16	21.19	89.19	236.25

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219	73B Bellandur Lake-Bottom soil		EN20120052-219	BLQ-(LOQ-1)	BLQ-(LOQ-1)	11.79	9.64	29.30	2977	2.46	2.99	8.94	12.48
220	74 Bellandur Lake-Top soil	12°55'46"N 77°39'25"E	EN20120052-220	BLQ-(LOQ-1)	BLQ-(LOQ-1)	16.01	52.37	113.89	6574	4.06	35.02	107.72	265.21
221	74A Bellandur Lake-Middle soil		EN20120052-221	BLQ-(LOQ-1)	BLQ-(LOQ-1)	12.48	15.77	61.17	3689	2.76	7.33	23.70	40.65
222	74B Bellandur Lake-Bottom soil		EN20120052-222	BLQ-(LOQ-1)	BLQ-(LOQ-1)	7.63	5.50	7.23	1539	1.01	1.05	2.66	0.52
223	75 Bellandur Lake-Top soil		EN20120052-223	BLQ-(LOQ-1)	BLQ-(LOQ-1)	17.10	46.41	46.28	4602	2.26	15.71	84.51	188.61
224	75A Bellandur Lake-Middle soil	12°55'46"N 77°39'31"E	EN20120052-224	BLQ-(LOQ-1)	BLQ-(LOQ-1)	13.88	39.63	57.11	4502	2.79	21.48	164.14	340.41
225	75B Bellandur Lake-Bottom soil		EN20120052-225	BLQ-(LOQ-1)	BLQ-(LOQ-1)	9.53	6.47	21.42	2277	1.78	2.16	3.48	1.54
226	76 Bellandur Lake-Top soil		EN20120052-226	BLQ-(LOQ-1)	BLQ-(LOQ-1)	11.83	40.60	58.72	3959	2.38	27.04	72.92	226.31
227	76A Bellandur Lake-Middle soil	12°55'46"N 77°39'28"E	EN20120052-227	BLQ-(LOQ-1)	BLQ-(LOQ-1)	10.47	13.87	53.04	2838	2.67	5.68	19.19	32.86
228	76B Bellandur Lake-Bottom soil		EN20120052-228	BLQ-(LOQ-1)	BLQ-(LOQ-1)	13.56	9.66	10.32	2979	2.17	2.86	4.86	3.42
229	77 Bellandur Lake-Top soil		EN20120052-229	BLQ-(LOQ-1)	BLQ-(LOQ-1)	14.03	25.09	191.43	6005	3.70	10.16	46.50	105.90
230	77A Bellandur Lake-Middle soil	12°55'49"N 77°39'35"E	EN20120052-230	BLQ-(LOQ-1)	BLQ-(LOQ-1)	25.30	26.98	197.92	8475	5.18	8.85	23.78	28.69
231	77B Bellandur Lake-Bottom soil		EN20120052-231	BLQ-(LOQ-1)	BLQ-(LOQ-1)	23.47	84.94	127.72	7743	4.36	36.16	178.05	409.83
232	78 Bellandur Lake-Top soil		EN20120052-232	BLQ-(LOQ-1)	BLQ-(LOQ-1)	26.33	46.36	79.63	8055	4.22	23.35	166.96	422.58
233	78A Bellandur Lake-Middle soil	12°55'51"N 77°39'38"E	EN20120052-233	BLQ-(LOQ-1)	BLQ-(LOQ-1)	9.88	25.85	43.47	4328	2.64	25.71	80.98	190.40
234	78B Bellandur Lake-Bottom soil		EN20120052-234	BLQ-(LOQ-1)	BLQ-(LOQ-1)	27.99	13.19	46.38	9455	4.96	6.66	11.64	5.16
235	79 Bellandur Lake-Top soil		EN20120052-235	BLQ-(LOQ-1)	BLQ-(LOQ-1)	18.95	14.66	52.94	#####	4.67	6.37	10.30	6.30
236	79A Bellandur Lake-Middle soil	12°55'49"N 77°39'40"E	EN20120052-236	BLQ-(LOQ-1)	BLQ-(LOQ-1)	24.01	23.78	60.18	7493	5.46	5.22	14.55	17.19
237	79B Bellandur Lake-Bottom soil		EN20120052-237	BLQ-(LOQ-1)	BLQ-(LOQ-1)	23.33	13.47	48.06	7977	5.86	5.23	8.53	3.01
238	80 Bellandur Lake-Top soil		EN20120052-238	BLQ-(LOQ-1)	BLQ-(LOQ-1)	30.73	15.02	43.60	8329	5.92	6.86	11.44	5.43
239	80A Bellandur Lake-Middle soil	12°55'49"N 77°39'43"E	EN20120052-239	BLQ-(LOQ-1)	BLQ-(LOQ-1)	30.73	15.02	43.60	8329	5.92	6.86	11.44	5.43
240	80B Bellandur Lake-Bottom soil		EN20120052-240	BLQ-(LOQ-1)	BLQ-(LOQ-1)	10.81	7.22	16.40	2194	2.20	2.51	2.65	0.73
241	81 Bellandur Lake-Top soil	12°55'47"N	EN20120052-241	BLQ-(LOQ-1)	BLQ-(LOQ-1)	23.77	10.68	62.43	5525	3.72	5.55	10.08	5.83

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242	81A Bellandur Lake-Middle soil	77°39'44"E	EN20120052-242	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	31.76	13.20	43.98	9071	5.43	8.02	12.74	7.16
243	81B Bellandur Lake-Bottom soil		EN20120052-243	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	17.26	7.33	208.59	4896	6.61	7.40	6.09	0.71
244	82 Bellandur Lake-Top soil	12°55'44"N 77°39'51"E	EN20120052-244	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	24.30	67.76	73.11	10323	4.34	32.89	180.43	334.95
245	82A Bellandur Lake-Middle soil		EN20120052-245	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	21.98	8.62	78.11	7355	4.51	5.65	9.16	7.06
246	82B Bellandur Lake-Bottom soil		EN20120052-246	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	17.07	6.11	48.62	4788	3.07	3.69	7.11	5.29

3.02	1.05	BLQ-(LOQ-1)	49.75	1.38	2.15	BLQ-(LOQ-1)	BLQ-(LOQ-1)	160.81	BLQ-(LOQ-1)	BLQ-(LOQ-1)	19.21	BDL (DL: 0.1)	2
1.52	BLQ-(LOQ-1)	BLQ-(LOQ-1)	19.05	1.09	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	136.50	BLQ-(LOQ-1)	BLQ-(LOQ-1)	15.25	BDL (DL: 0.1)	0
2.39	1.33	BLQ-(LOQ-1)	1.42	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	76.96	BLQ-(LOQ-1)	BLQ-(LOQ-1)	13.61	BDL (DL: 0.1)	1
1.38	BLQ-(LOQ-1)	55.29	BLQ-(LOQ-1)	BLQ-(LOQ-1)	9.32	BDL (DL: 0.1)	0						
1.48	BLQ-(LOQ-1)	BLQ-(LOQ-1)	1.04	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	41.39	BLQ-(LOQ-1)	BLQ-(LOQ-1)	8.47	BDL (DL: 0.1)	0
2.01	BLQ-(LOQ-1)	77.74	BLQ-(LOQ-1)	BLQ-(LOQ-1)	10.64	BDL (DL: 0.1)	0						
2.34	BLQ-(LOQ-1)	67.89	BLQ-(LOQ-1)	BLQ-(LOQ-1)	9.78	BDL (DL: 0.1)	0						
1.55	BLQ-(LOQ-1)	BLQ-(LOQ-1)	4.94	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	96.92	BLQ-(LOQ-1)	BLQ-(LOQ-1)	9.49	BDL (DL: 0.1)	0
2.01	BLQ-(LOQ-1)	BLQ-(LOQ-1)	10.75	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	89.39	BLQ-(LOQ-1)	BLQ-(LOQ-1)	7.90	BDL (DL: 0.1)	0
2.42	1.32	1.40	21.58	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	95.08	BLQ-(LOQ-1)	BLQ-(LOQ-1)	20.19	BDL (DL: 0.1)	2
3.21	1.95	4.75	67.02	36.15	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	201.38	BLQ-(LOQ-1)	BLQ-(LOQ-1)	75.96	BDL (DL: 0.1)	7
2.84	1.55	4.91	207.55	3.44	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	306.99	BLQ-(LOQ-1)	BLQ-(LOQ-1)	97.64	BDL (DL: 0.1)	7
2.34	1.41	25.29	169.01	4.86	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	198.70	BLQ-(LOQ-1)	BLQ-(LOQ-1)	47.68	BDL (DL: 0.1)	5
2.48	1.52	3.69	155.71	31.37	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	212.56	BLQ-(LOQ-1)	BLQ-(LOQ-1)	88.51	BDL (DL: 0.1)	6
2.67	2.31	22.67	178.98	2.87	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	200.87	BLQ-(LOQ-1)	BLQ-(LOQ-1)	55.78	BDL (DL: 0.1)	5
2.34	2.44	26.14	153.60	2.52	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	197.16	BLQ-(LOQ-1)	BLQ-(LOQ-1)	58.68	BDL (DL: 0.1)	4
2.32	2.02	23.45	221.40	2.63	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	216.19	BLQ-(LOQ-1)	BLQ-(LOQ-1)	49.52	BDL (DL: 0.1)	5

268	90 Bellandur Lake-Top soil	12°56'51"N 77°40'03"E	EN20120052-268	BLQ-(LOQ-1)	BLQ-(LOQ-1)	15.44	27.26	45.83	5045	2.50	13.46	135.25	341.06
269	90A Bellandur Lake-Middle soil		EN20120052-269	BLQ-(LOQ-1)	BLQ-(LOQ-1)	22.25	24.46	65.20	6893	3.43	14.68	151.51	325.21
270	90B Bellandur Lake-Bottom soil		EN20120052-270	BLQ-(LOQ-1)	BLQ-(LOQ-1)	21.09	12.70	174.24	7935	5.77	7.11	19.49	28.38
271	91 Bellandur Lake-Top soil	12°56'36"N 77°40'05"E	EN20120052-271	BLQ-(LOQ-1)	BLQ-(LOQ-1)	15.64	11.83	45.12	4153	1.97	8.22	85.63	189.29
272	91A Bellandur Lake-Middle soil		EN20120052-272	BLQ-(LOQ-1)	BLQ-(LOQ-1)	42.08	54.93	146.41	16773	8.56	34.56	297.86	610.10
273	91B Bellandur Lake-Bottom soil		EN20120052-273	BLQ-(LOQ-1)	BLQ-(LOQ-1)	12.69	5.65	583.75	4052	5.73	4.40	6.08	5.58
274	92 Bellandur Lake-Top soil	12°56'05"N 77°40'16"E	EN20120052-274	BLQ-(LOQ-1)	BLQ-(LOQ-1)	37.25	38.15	150.51	13569	6.68	30.95	270.43	569.44
275	92A Bellandur Lake-Middle soil		EN20120052-275	BLQ-(LOQ-1)	BLQ-(LOQ-1)	32.40	83.51	114.48	13884	7.24	44.18	364.43	905.93
276	92B Bellandur Lake-Bottom soil		EN20120052-276	BLQ-(LOQ-1)	BLQ-(LOQ-1)	26.76	12.54	553.25	7296	9.06	11.78	12.68	12.71
277	93 Bellandur Lake-Top soil	12°56'00"N 77°40'10"E	EN20120052-277	BLQ-(LOQ-1)	BLQ-(LOQ-1)	34.31	63.06	148.72	13443	7.12	34.65	303.07	595.94
278	93A Bellandur Lake-Middle soil		EN20120052-278	BLQ-(LOQ-1)	BLQ-(LOQ-1)	35.42	70.82	147.94	13980	7.47	39.83	317.42	651.15
279	93B Bellandur Lake-Bottom soil		EN20120052-279	BLQ-(LOQ-1)	BLQ-(LOQ-1)	33.75	29.74	568.20	17131	12.98	18.72	48.97	104.68
280	94 Bellandur Lake-Top soil	12°55'58"N 77°40'11"E	EN20120052-280	BLQ-(LOQ-1)	BLQ-(LOQ-1)	34.55	62.17	127.60	13514	7.55	35.17	334.52	683.10
281	94A Bellandur Lake-Middle soil		EN20120052-281	BLQ-(LOQ-1)	BLQ-(LOQ-1)	34.96	63.09	142.58	13504	7.18	36.39	304.49	601.55
282	94B Bellandur Lake-Bottom soil		EN20120052-282	BLQ-(LOQ-1)	BLQ-(LOQ-1)	33.07	24.50	408.49	14386	13.37	15.56	25.28	33.52
283	95 Bellandur Lake-Top soil	12°55'56"N 77°40'12"E	EN20120052-283	BLQ-(LOQ-1)	BLQ-(LOQ-1)	30.10	89.73	110.84	10473	5.32	39.12	305.49	658.39
284	95A Bellandur Lake-Middle soil		EN20120052-284	BLQ-(LOQ-1)	BLQ-(LOQ-1)	22.78	21.97	31.60	6329	3.79	4.88	6.22	3.03
285	95B Bellandur Lake-Bottom soil		EN20120052-285	BLQ-(LOQ-1)	BLQ-(LOQ-1)	31.92	20.98	567.43	14693	9.94	12.83	18.46	22.25
286	96 Bellandur Lake-Top soil	12°55'54"N 77°40'11"E	EN20120052-286	BLQ-(LOQ-1)	BLQ-(LOQ-1)	33.45	61.87	152.57	14201	7.58	34.39	318.04	605.67
287	96A Bellandur Lake-Middle soil		EN20120052-287	BLQ-(LOQ-1)	BLQ-(LOQ-1)	19.42	45.24	69.49	7549	3.60	27.09	188.91	362.82
288	96B Bellandur Lake-Bottom soil		EN20120052-288	BLQ-(LOQ-1)	BLQ-(LOQ-1)	20.07	17.97	79.15	4314	2.48	5.21	8.50	9.27
289	97 Bellandur Lake-Top soil	12°55'94"N 77°40'31"E	EN20120052-289	BLQ-(LOQ-1)	BLQ-(LOQ-1)	25.43	24.10	73.38	8234	5.52	5.80	7.49	6.64
290	97A Bellandur Lake-Middle soil		EN20120052-290	BLQ-(LOQ-1)	BLQ-(LOQ-1)	21.27	35.71	64.07	7164	3.40	19.46	156.70	403.46

291	97B Bellandur Lake-Bottom soil		EN20120052-291	BLQ-(LOQ-1)	10.84	6.60	49.42	3436	2.27	1.95	3.50	1.60
292	98 Bellandur Lake-Top soil	12°55'54"N 77°40'58"E	EN20120052-292	BLQ-(LOQ-1)	32.83	59.98	127.82	12487	6.45	32.64	306.81	603.45
293	98A Bellandur Lake-Middle soil		EN20120052-293	BLQ-(LOQ-1)	25.81	44.73	117.30	9432	5.66	31.05	136.22	271.83
294	98B Bellandur Lake-Bottom soil		EN20120052-294	BLQ-(LOQ-1)	12.74	20.44	38.10	3764	1.32	1.93	2.83	16.39
295	99 Bellandur Lake-Top soil		EN20120052-295	BLQ-(LOQ-1)	23.58	30.86	77.53	6650	3.25	16.79	160.45	318.33
296	99A Bellandur Lake-Middle soil	12°55'54"N 77°40'80"E	EN20120052-296	BLQ-(LOQ-1)	18.45	17.87	49.55	4538	3.32	4.97	7.77	6.93
297	99B Bellandur Lake-Bottom soil		EN20120052-297	BLQ-(LOQ-1)	10.84	7.21	29.35	2813	2.18	2.05	4.00	4.02

2.97	BLQ-(LOQ-1)	3.71	177.97	40.80	BLQ-(LOQ-1)	157.18	BLQ-(LOQ-1)	61.70	BDL (DL: 0.1)	4
1.02	BLQ-(LOQ-1)	BLQ-(LOQ-1)	25.71	5.83	BLQ-(LOQ-1)	61.12	BLQ-(LOQ-1)	17.04	BDL (DL: 0.1)	2
1.18	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	32.91	BLQ-(LOQ-1)	4.51	BDL (DL: 0.1)	0
BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	5.22	BLQ-(LOQ-1)	BLQ-(LOQ-1)	39.36	BLQ-(LOQ-1)	4.45	BDL (DL: 0.1)	0
BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	18.42	2.61	BLQ-(LOQ-1)	51.21	BLQ-(LOQ-1)	10.49	BDL (DL: 0.1)	0
1.80	BLQ-(LOQ-1)	BLQ-(LOQ-1)	2.63	BLQ-(LOQ-1)	BLQ-(LOQ-1)	64.32	BLQ-(LOQ-1)	5.86	BDL (DL: 0.1)	0
1.02	BLQ-(LOQ-1)	BLQ-(LOQ-1)	11.35	1.47	BLQ-(LOQ-1)	55.82	BLQ-(LOQ-1)	10.11	BDL (DL: 0.1)	0
1.77	1.30	BLQ-(LOQ-1)	3.29	BLQ-(LOQ-1)	BLQ-(LOQ-1)	67.61	BLQ-(LOQ-1)	11.77	BDL (DL: 0.1)	1
1.84	1.29	BLQ-(LOQ-1)	1.59	BLQ-(LOQ-1)	BLQ-(LOQ-1)	78.09	BLQ-(LOQ-1)	11.21	BDL (DL: 0.1)	1
1.66	1.03	4.73	147.07	28.39	BLQ-(LOQ-1)	171.18	BLQ-(LOQ-1)	56.42	BDL (DL: 0.1)	5
1.94	1.19	1.60	38.81	4.21	BLQ-(LOQ-1)	114.27	BLQ-(LOQ-1)	24.00	BDL (DL: 0.1)	2
1.24	BLQ-(LOQ-1)	3.24	106.16	19.09	BLQ-(LOQ-1)	159.37	BLQ-(LOQ-1)	37.57	BDL (DL: 0.1)	3
2.00	1.96	5.34	165.60	26.08	BLQ-(LOQ-1)	224.95	BLQ-(LOQ-1)	40.57	BDL (DL: 0.1)	6
1.94	1.61	5.05	161.76	23.59	BLQ-(LOQ-1)	289.08	BLQ-(LOQ-1)	37.11	BDL (DL: 0.1)	6
BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	2.95	BLQ-(LOQ-1)	BLQ-(LOQ-1)	102.09	BLQ-(LOQ-1)	9.59	BDL (DL: 0.1)	0

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1.71	1.31	4.50	140.43	19.85	BLQ-(LOQ-1)	BLQ-(LOQ-1)	201.71	BLQ-(LOQ-1)	BLQ-(LOQ-1)	32.85	BDL (DL: 0.1)	5
1.22	BLQ-(LOQ-1)	3.33	104.98	18.98	BLQ-(LOQ-1)	BLQ-(LOQ-1)	159.53	BLQ-(LOQ-1)	BLQ-(LOQ-1)	37.40	BDL (DL: 0.1)	3
1.13	BLQ-(LOQ-1)	BLQ-(LOQ-1)	1.41	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	75.21	BLQ-(LOQ-1)	BLQ-(LOQ-1)	10.56	BDL (DL: 0.1)	0
1.70	BLQ-(LOQ-1)	1.51	36.00	3.24	BLQ-(LOQ-1)	BLQ-(LOQ-1)	111.88	BLQ-(LOQ-1)	BLQ-(LOQ-1)	19.41	BDL (DL: 0.1)	1
4.95	1.41	6.13	131.47	7.00	BLQ-(LOQ-1)	BLQ-(LOQ-1)	187.97	BLQ-(LOQ-1)	BLQ-(LOQ-1)	49.56	BDL (DL: 0.1)	6
1.84	BLQ-(LOQ-1)	BLQ-(LOQ-1)	5.77	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	106.30	BLQ-(LOQ-1)	BLQ-(LOQ-1)	16.62	BDL (DL: 0.1)	0
2.18	1.28	4.25	159.71	46.29	BLQ-(LOQ-1)	BLQ-(LOQ-1)	206.23	BLQ-(LOQ-1)	BLQ-(LOQ-1)	60.48	BDL (DL: 0.1)	5
2.35	1.54	5.98	155.54	33.74	BLQ-(LOQ-1)	BLQ-(LOQ-1)	194.61	BLQ-(LOQ-1)	BLQ-(LOQ-1)	57.61	BDL (DL: 0.1)	6
1.55	BLQ-(LOQ-1)	BLQ-(LOQ-1)	8.81	1.55	BLQ-(LOQ-1)	BLQ-(LOQ-1)	106.86	BLQ-(LOQ-1)	BLQ-(LOQ-1)	17.52	BDL (DL: 0.1)	0
1.57	1.09	4.20	130.95	18.63	BLQ-(LOQ-1)	BLQ-(LOQ-1)	186.61	BLQ-(LOQ-1)	BLQ-(LOQ-1)	32.59	BDL (DL: 0.1)	4
4.45	2.51	10.07	267.63	45.36	6.42	BLQ-(LOQ-1)	260.85	BLQ-(LOQ-1)	BLQ-(LOQ-1)	82.07	BDL (DL: 0.1)	9
BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	2.14	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	108.88	BLQ-(LOQ-1)	BLQ-(LOQ-1)	13.69	BDL (DL: 0.1)	0
3.96	1.97	8.38	288.26	41.43	4.03	BLQ-(LOQ-1)	307.81	BLQ-(LOQ-1)	BLQ-(LOQ-1)	61.43	BDL (DL: 0.1)	6
5.11	2.57	7.29	33.95	92.86	BLQ-(LOQ-1)	BLQ-(LOQ-1)	238.25	BLQ-(LOQ-1)	BLQ-(LOQ-1)	88.43	BDL (DL: 0.1)	8
1.99	1.61	BLQ-(LOQ-1)	7.68	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	137.50	BLQ-(LOQ-1)	BLQ-(LOQ-1)	21.12	BDL (DL: 0.1)	1
3.95	2.04	8.98	319.85	43.68	7.18	BLQ-(LOQ-1)	245.03	BLQ-(LOQ-1)	BLQ-(LOQ-1)	85.41	BDL (DL: 0.1)	9
3.97	2.02	7.61	345.48	50.50	9.24	BLQ-(LOQ-1)	292.40	BLQ-(LOQ-1)	BLQ-(LOQ-1)	94.79	BDL (DL: 0.1)	9
2.96	1.83	1.25	37.44	5.19	2.86	BLQ-(LOQ-1)	159.02	BLQ-(LOQ-1)	BLQ-(LOQ-1)	23.17	BDL (DL: 0.1)	3
4.22	2.24	8.43	302.25	50.20	2.09	BLQ-(LOQ-1)	253.22	BLQ-(LOQ-1)	BLQ-(LOQ-1)	83.33	BDL (DL: 0.1)	8
3.86	1.89	7.97	325.37	41.93	8.33	BLQ-(LOQ-1)	260.43	BLQ-(LOQ-1)	BLQ-(LOQ-1)	84.58	BDL (DL: 0.1)	9
2.63	1.51	BLQ-(LOQ-1)	8.16	1.29	BLQ-(LOQ-1)	BLQ-(LOQ-1)	142.70	BLQ-(LOQ-1)	BLQ-(LOQ-1)	18.58	BDL (DL: 0.1)	1
3.47	1.76	5.56	359.74	106.24	7.32	BLQ-(LOQ-1)	290.71	BLQ-(LOQ-1)	BLQ-(LOQ-1)	104.74	BDL (DL: 0.1)	9

1.92	BLQ-(LOQ-1)	BLQ-(LOQ-1)	3.68	BLQ-(LOQ-1)	1.52	BLQ-(LOQ-1)	37.98	BLQ-(LOQ-1)	BLQ-(LOQ-1)	6.22	BDL (DL: 0.1)	0
1.96	1.79	BLQ-(LOQ-1)	5.71	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	109.91	BLQ-(LOQ-1)	BLQ-(LOQ-1)	17.25	BDL (DL: 0.1)	1
4.00	2.18	10.52	302.31	42.14	8.18	BLQ-(LOQ-1)	248.54	BLQ-(LOQ-1)	BLQ-(LOQ-1)	85.52	BDL (DL: 0.1)	9
2.99	1.47	4.47	176.00	40.21	BLQ-(LOQ-1)	BLQ-(LOQ-1)	236.24	BLQ-(LOQ-1)	BLQ-(LOQ-1)	76.68	BDL (DL: 0.1)	6
BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	2.43	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	36.94	BLQ-(LOQ-1)	BLQ-(LOQ-1)	6.86	BDL (DL: 0.1)	0
1.85	BLQ-(LOQ-1)	BLQ-(LOQ-1)	14.85	BLQ-(LOQ-1)	3.02	BLQ-(LOQ-1)	39.93	BLQ-(LOQ-1)	BLQ-(LOQ-1)	7.65	BDL (DL: 0.1)	0
2.85	1.49	5.91	192.67	47.91	BLQ-(LOQ-1)	BLQ-(LOQ-1)	221.69	BLQ-(LOQ-1)	BLQ-(LOQ-1)	78.97	BDL (DL: 0.1)	7
1.05	BLQ-(LOQ-1)	0.27	1.10	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	26.56	BLQ-(LOQ-1)	BLQ-(LOQ-1)	5.47	BDL (DL: 0.1)	0
3.77	2.36	7.20	317.64	37.70	3.61	BLQ-(LOQ-1)	245.43	BLQ-(LOQ-1)	BLQ-(LOQ-1)	76.88	BDL (DL: 0.1)	8
5.71	BLQ-(LOQ-1)	3.94	121.16	8.15	1.85	BLQ-(LOQ-1)	129.08	BLQ-(LOQ-1)	BLQ-(LOQ-1)	42.31	BDL (DL: 0.1)	4
BLQ-(LOQ-1)	9.33	BLQ-(LOQ-1)	BLQ-(LOQ-1)	3.47	BDL (DL: 0.1)	0						
2.11	1.22	4.58	228.70	25.55	3.34	BLQ-(LOQ-1)	225.28	BLQ-(LOQ-1)	BLQ-(LOQ-1)	71.92	BDL (DL: 0.1)	6
BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	9.53	BLQ-(LOQ-1)	BLQ-(LOQ-1)	BLQ-(LOQ-1)	29.84	BLQ-(LOQ-1)	BLQ-(LOQ-1)	6.41	BDL (DL: 0.1)	0
BLQ-(LOQ-1)	35.66	BLQ-(LOQ-1)	BLQ-(LOQ-1)	6.77	BDL (DL: 0.1)	0						

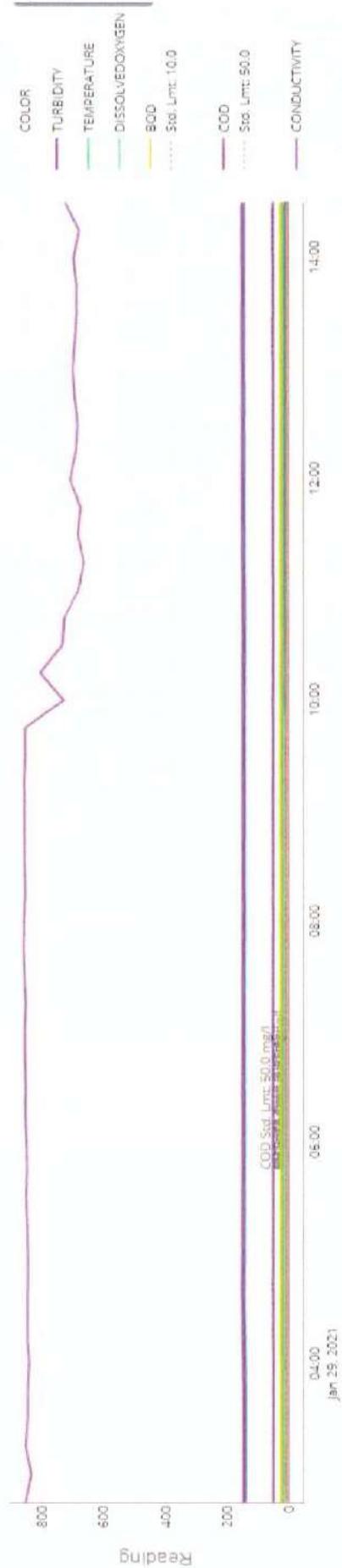
298	100 Bellandur Lake-Top soil	EN20120052-298	BLQ-(LOQ-1)	BLQ-(LOQ-1)	15.65	25.26	61.42	4926	2.63	13.62	112.43	302.75
299	100A Bellandur Lake-Middle soil	EN20120052-299	BLQ-(LOQ-1)	BLQ-(LOQ-1)	8.20	14.41	14.88	2131	0.90	1.09	1.96	0.90
300	100B Bellandur Lake-Bottom soil	EN20120052-300	BLQ-(LOQ-1)	BLQ-(LOQ-1)	13.17	6.42	25.53	2449	2.12	2.21	5.71	3.26
301	101 Bellandur Lake-Top soil	EN20120052-301	BLQ-(LOQ-1)	BLQ-(LOQ-1)	23.91	33.08	64.16	6580	3.48	19.13	206.19	380.15
302	101A Bellandur Lake-Middle soil	EN20120052-302	BLQ-(LOQ-1)	BLQ-(LOQ-1)	6.11	8.73	7.13	1696	0.86	0.89	1.84	2.87
303	101B Bellandur Lake-Bottom soil	EN20120052-303	BLQ-(LOQ-1)	BLQ-(LOQ-1)	8.12	5.22	39.69	2450	1.72	1.99	3.47	2.14
304	102 Bellandur Lake-Top soil	EN20120052-304	BLQ-(LOQ-1)	BLQ-(LOQ-1)	20.87	48.78	88.74	9096	4.75	39.55	155.44	331.80
305	102A Bellandur Lake-Middle soil	EN20120052-305	BLQ-(LOQ-1)	BLQ-(LOQ-1)	9.21	2.89	292.47	1936	6.29	3.68	3.87	2.11

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ANNEXURE – R-16

Agaram Lake Graph

Agara Lake



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Bellandur Lake Graph

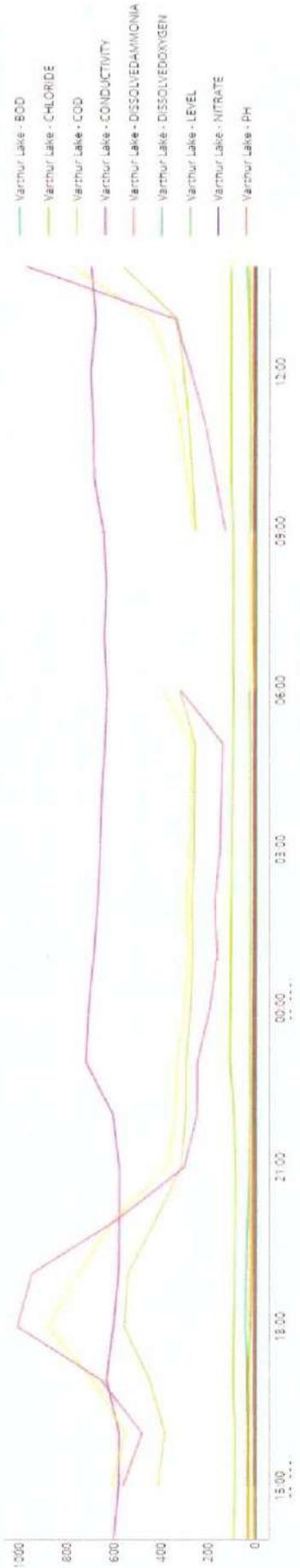
Bellandur Lake



Varthur Lake Graph

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Varthur Lake



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