

**BEFORE THE NATIONAL GREEN TRIBUNAL  
SOUTH ZONE AT CHENNAI**

(Under Section 18(1) read with Section 14, 15  
of the National Green Tribunal Act 2010)

Application No. 162 of 2016

Between

K. Nagappa,  
S/o. Koneetoppa,  
3/84, Dasarapalli,  
Hosur Taluk,  
Krishnagiri District.

..Applicant

And

Union of India,  
Represented by the Ministry of  
Environment and Forests,  
New Delhi and 7 others.

..Respondents

**STATUS REPORT SUBMITTED BY THE 8<sup>TH</sup> RESPONDENT**

I. K.Balasubramanian, son of Kuttiyappa Goundar, Hindu,  
aged about 51 years, having office at Hosur City Municipal  
Corporation, Hosur, Krishnagiri District, do hereby solemnly  
affirm and sincerely state as follows:-

  
ASSISTANT EXECUTIVE ENGINEER

  
COMMISSIONER  
Hosur City Municipal Corporation

- 2 -

1) I am the Commissioner of Hosur City Municipal Corporation, the 8<sup>th</sup> respondent herein and as such I am well acquainted with the facts of the case.

2) I submit that the above application came up on 03.06.2021 and that day I have filed a report and photographs how this respondent carried out the solid waste management works as per the Solid Waste Management Rules 2016 regarding collection, segregation and disposal of the solid wastes and about the Bio Methanation Plant and the same was put in use. I crave leave of this Hon'ble Tribunal may be pleased to read the earlier report filed on 03.06.2021 as part and parcel of this report. I submit that the matter came up on 08.09.2021 and again on 19.11.2021 and we have filed the status report on those days. I request this Hon'ble Tribunal may be pleased to read the earlier reports as part and parcel of this status report. The below mentioned submissions are subsequently what works are done to remove the legacy from the dumping site.

3) I Submit that Bio Methanasation Plant and Bio CNG Bottling Plant is working in a good condition producing 400 kg Bio Gas every day and the same will be supplied to the Private

  
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- 3 -

companies. I Submit that the 11 Micro Compost Yard within the city for segregating the daily collection wastes, are functioning well. Therefore the fresh wastes are not dumping in the present dumping site.

4) I submit that though full hard work and efforts put on for removing the legacy by the Contractors. The seasonal heavy rain continuously in Hosur forced the workers to set back from carrying out their work for nearly 50 days. Due to this rain, rainfall measured for the month of September 12 days – 107.7 mm, October 15 days – 198.3 mm and November 18 Days – 246 mm and December 5 days – 38mm. Totally 50 days continuously the dumping site become muddy and the legacy waste become too moist even after rain comes to end. Since it is Continuous raining every day and therefore to dry up the legacy waste it takes three or four days. After drying up only we can sieve the legacy waste materials such as Manure, RDF and inert. In our earlier report I had stated in the status Report that 8% was yet to be removed. However by hard labour of the contract workers we had been able to remove the 4% Legacy from the dumping site. Because of this reason submitted above, this respondent could not remove the remaining 4% of the legacy waste from

  
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- 4 -

the dumping site which was contracted out. I submit that to remove this 4% legacy waste, this respondent requested for another 5 weeks and the removal of the legacy could not be completed till today but only for the reasons stated above. The photos submitted here in, 1) Bio Methanaisation Plant, 2) Dumping Site with planting trees for remedial measures, 3) Rainfall reports, 4) CES Report, 5) Contractor Letter.

5) I submit that this Hon'ble Tribunal by its order dated 03.06.2021 directed this respondent Municipal Corporation to request the Expert Agency, the Centre for Environment of the Anna University to study with regard to the ground water contamination of the dumping site and the degradation of soil and the remedial measures for the same. They Inspected on 11.09.2021 and taken soil for testing water contamination and soil pollution and the report says that the heavy metals in both soil and water samples were found to be within acceptable limits. The report further says that as of now, the well situated within the dumpsite is not used for any domestic purpose and the water quality of surrounding wells are within the standards for potable water. Further this Municipal Corporation as per the recommendation of the Centre for Environmental studies report

  
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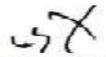
- 5 -

the everyday fresh waste not dumping in the Dasepalli Compost yard and Bio Mining Process are being done as per the recommendation of the Centre for Environmental Studies. This Corporation also ensured the Bio Methanation plant and Micro composting facilities and resource recovery centres of Hosur Municipal Corporation have been made functional without fresh waste are not dumped at the Dasepalli Compost Yard.

6) I submit that as far as the RDF Materials are concerned the Contractor could not send to the Ariyalur Cement Factory because the Cement factory not required this material at present. In this regard the Contractor has given a letter dated 06.12.2021 to this Municipal Corporation stating that this RDF materials will be shifted within two months to the Cement Factory. The Copy of the letter herein submitted. In the said letter the Contractor assigned reasons why this RDF Materials could not be removed in time.

7) I submit that considering the facts and circumstances submitted above why this Municipal Corporation could not complete the removal of legacy waste of 4% still remaining from the dumping site and considering the above submission for what

  
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reason we could not complete within the time stipulated by this Hon'ble Tribunal and therefore this respondent requested to need another 5 weeks for completing this Bio mining process.

Eventhough seasonal heavy raining this year and Corona Third wave causes the Contractor with his labours could not complete the legacy waste from the dumping site of remaining 4% still there.

It is therefore prayed that this Hon'ble Tribunal may be pleased to grant by extending the time for 5 weeks to remove the legacy work of 4% remaining in the dumping site and thus render justice.

It is therefore prayed that this Hon'ble Tribunal may be pleased to consider the above interim status report submitted and pass suitable orders and thus render justice.

Solemnly affirmed at Hosur on    )  
this day of February 16, 2022    )  
and signed his name                )  
in my presence.                        )

57  
**COMMISSIONER**  
Hosur City Municipal Corporation

Before me  
  
**ASSISTANT EXECUTIVE ENGINEER**  
Hosur City Municipal Corporation

# HOSUR CITY MUNICIPAL CORPORATION

## BIO MINING LEGACY WASTE CLEARED AREA PLANTATION WORK IN PROGRESS



# HOSUR CITY MUNICIPAL CORPORATION

## BIO METHANISATION PLANT



**HOSUR CITY MUNICIPAL CORPORATION**  
**BIO METHANISATION PLANT**

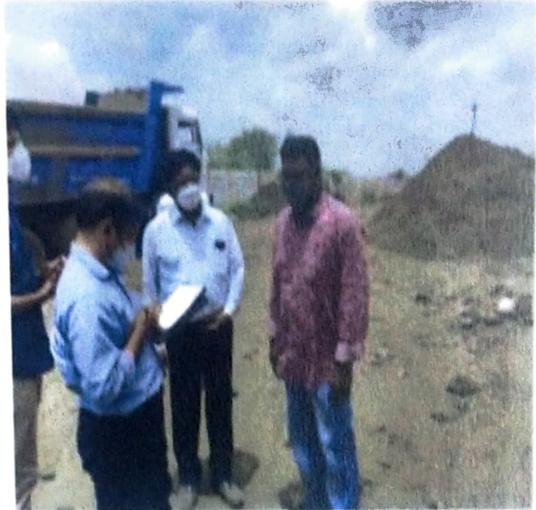


# HOSUR CITY MUNICIPAL CORPORATION

## BIO METHANISATION PLANT



**ANALYSIS OF GROUNDWATER AND SOIL QUALITY AT DASAIYAPALLI COMPOST  
YARD OF HOSUR MUNICIPAL CORPORATION**



Prepared by



**Centre for Environmental Studies  
Department of Civil Engineering  
Anna University, Chennai - 600 025**

**January 2022**

### TABLE OF CONTENT

S no	Title	Page No
1	Introduction	3
2	BACKGROUND AND SCOPE OF THE STUDY	3
3	SAMPLE COLLECTION	3
4	GROUND WATER AND SOIL QUALITY ASSESMENT	5
5	SUMMARY AND RECOMMENDATION	5

### LIST OF FIGURE

Figure no	Title	Page No
1	Groundwater and Soil Sample collected inside and outside the Hosur Dasaiyapalli dumpsite	4
2	Photograph of the soil and ground water sample collected from Hosur dumpsite by CES team on 11 September 2021	4

### LIST OF TABLE

Table no	Title	Page No
1	Test result of Water sample collected from Hosur Dasaiyapalli compost yard	7
2	Test result of soil sample collected from Hosur Dasaiyapalli compost yard	8
3	Test result of soil sample collected by TNPCB at Hosur Dasaiyapalli site premises	9

## ANALYSIS OF GROUNDWATER AND SOIL QUALITY AT DASAIYAPALLI COMPOST YARD OF HOSUR MUNICIPAL CORPORATION

### 1.0 INTRODUCTION

Hosur city Municipal Corporation is an industrial hub for several automobile and manufacturing industries and generates about 90 tons of municipal solid wastes (MSW) per day. The solid waste collected from the Hosur Municipality was dumped in the Compost yard of 9 acres located in Dasaiyapalli Village at a distance of about 15 km east of Hosur town. The areal extent of the Dasaiyapalli Dumpsite indicates that the waste is dumped over the land area of 4.46 acres (18045 m<sup>2</sup>). A litigation filed with the Hon'ble National Green Tribunal (NGT) against the dumping of garbage in the Dasaiyapalli Village resulted in a direction by the NGT to remove the existing legacy waste at Dasaiyapalli dumpsite by Biomining. Hosur city Municipal Corporation prepared a proposal for Biomining and awarded the work to M/s. Esarams Biotech, Namakkal vide Roc. No. 4512/2017/E1 dated 13.06.2018 for the removal of 128196 m<sup>3</sup> of legacy waste dumped at Dasaiyapalli compost yard. Hosur city Municipal Corporation engaged Centre for Environmental Studies (CES), Anna University, Chennai as Project Management consultant to assess the Progress of Biomining Operations.

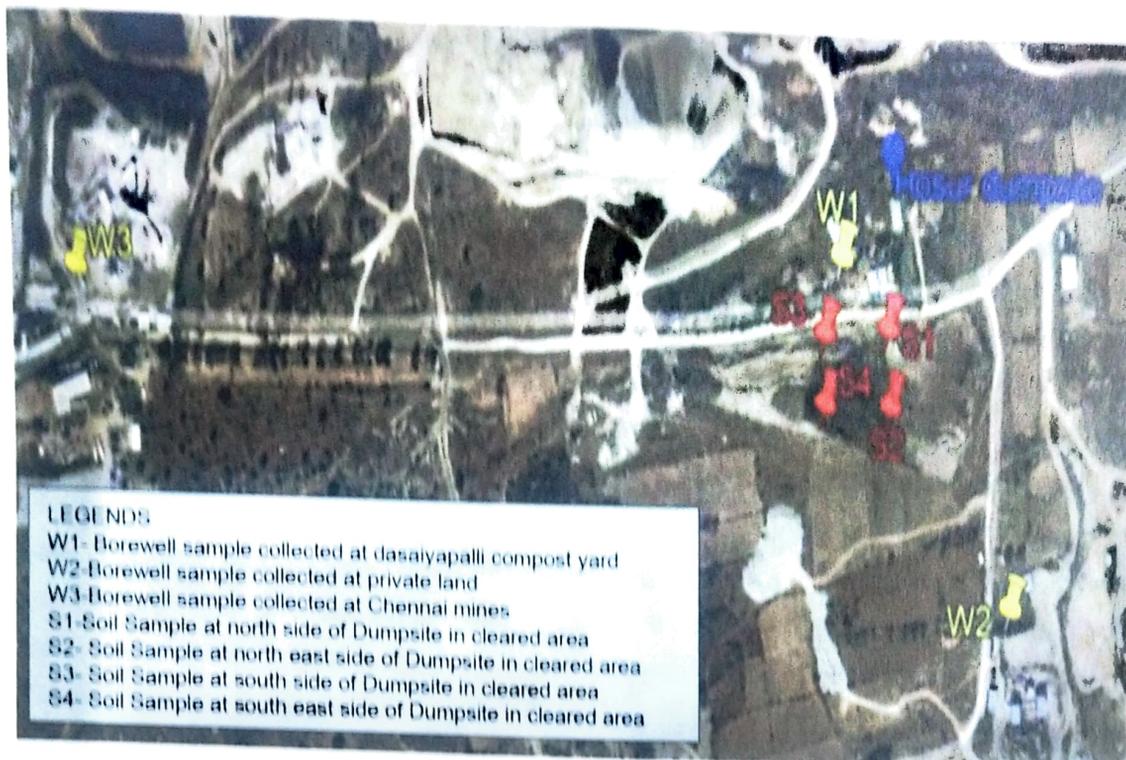
### 2.0 BACKGROUND AND SCOPE OF THE STUDY

In connection with a litigation filed with the Hon'ble National Green Tribunal (NGT) vide application No. 162 of 2016 (SZ), I.A no. 80 & 81 of 2021 (SZ), Hosur Municipal Corporation has engaged CES for the “ **A sassessment of impact due to dumping of waste at Dasiyapalli dumpsite**”. The scope of the study is as listed below,

1. To conduct one-time sampling and analysis of groundwater collected in and around the site at three different locations for the parameters such as pH, Electrical conductivity, Total Dissolved solids, Total Suspended solids, Alkalinity, Hardness, Chloride, Sulphates, Total arsenic, Cadmium, Total Chromium, Copper, Mercury, Nickel, Lead and Zinc.
2. To conduct one-time sampling and analysis of soil sample collected within the site at four different locations at various depths for the parameters such as pH, Total arsenic, Cadmium, Total Chromium, Copper, Mercury, Nickel, Lead and Zinc.

### 3.0 SAMPLE COLLECTION

CES team inspected the dumpsite on 11 September 2021 and collected soil samples (4 Nos at varying depths) and Ground water samples (3 Nos.). Soil samples were collected at four location inside the site premises at surface, at 25 cm depth and at 1m depth. The photograph of the sample location and the collection point is attached in Figure 1 & 2.



**Figure 1** Groundwater and Soil Sample collected inside and outside the Hosur Dasaiyapalli dumpsite



**Figure 2** Photograph of the soil and ground water sample collected from Hosur dumpsite by CES team on 11 September 2022

#### 4.0 GROUND WATER AND SOIL QUALITY ASSESMENT

The characteristics of the water sample and soil sample is presented in Table 1 and Table 2. The ground water sample collected at the entrance of Dasaiyapalli compost yard (Location 1) has Total hardness (1070 mg/L) and Total dissolved solids (3200 mg/L) is higher than the permissible limit (600 mg/L & 2000 mg/L) as per IS 10500:2012 for potable water. Similar observations are seen in the TNPCB Reports. Whereas Total hardness and Total dissolved solids at nearby private land (location 2) and Chennai mines (Location 3) are within the permissible limit. High concentration of Total hardness and Total dissolved solids at Dasaiyapalli compost yard maybe due to the infiltration of leachate from the fresh waste dump. As there is no baseline monitoring data available before the dumping of the waste at Dasaiyapalli compost yard, it is difficult to confirm, if the increased hardness and TDS is due to dumping of wastes. However, since the hardness and TDs are higher than that of the nearby locations, it may be attributed to contamination from the leachate of the dumped wastes. . The heavy metals concentration (Total arsenic as (As), Cadmium (as Cd), Total Chromium (as Cr), Copper (as Cu), Mercury (as Hg), Nickel (as Ni), Lead (as Pb), Zinc (as Zn)) are found to be absent in all the three water samples. The analysis of soil samples collected at three locations within the site indicates that the soil is not contaminated by the heavy metals. The test results of soil sample analysed by TNPCB at Dasaiyapalli site premises presented in Table 3 is also in line with this observations.

#### 5.0 SUMMARY AND RECOMMENDATION

In connection with a litigation filed with the Hon'ble National Green Tribunal (NGT) vide application No. 162 of 2016 (SZ), I.A no. 80 & 81 of 2021 (SZ), Hosur Municipal Corporation has engaged CES for the “**Assessment of impact due to dumping of waste at Dasaiyapalli dumpsite**”. One-time sampling and analysis of groundwater collected in and around the site at three different locations were done for the parameters such as pH, Electrical conductivity, Total Dissolved solids, Total Suspended solids, Alkalinity, Hardness, Chloride, Sulphates, Total arsenic, Cadmium, Total Chromium, Copper, Mercury, Nickel, Lead and Zinc. Futher, one-time sampling and analysis of soil sample collected within the site were done at four different locations at various depths for the parameters such as pH, Total arsenic, Cadmium, Total Chromium, Copper, Mercury, Nickel, Lead and Zinc.

The results of the analysis indicate that the groundwater at the dumpsite location has hardness and Total dissolved solids higher than the limits for potable water. The heavy metals in both soil and water samples were found to be within acceptable limits.

Though no data was available on the water quality of the dumpsite prior to dumping of the wastes, the high concentrations of TDS and hardness of the ground water samples within the dumpsite over that of nearby wells may be attributed to the impact of dumping of the waste at Dasaiyapalli compost yard. As of now, the well within the dumpsite is not used for any domestic purpose and the water quality of surrounding wells are within the standards for potable water. Accordingly, it is recommended that the Hosur Municipal Corporation to stop further dumping of fresh waste in the Dasaiyapalli compost yard and complete the Biomining of legacy waste at the earliest. The fresh waste dumped at Dasaiyapalli compost yard during the Biomining period shall be processed in the Bio-Methanation plant Or through biomining process after waste stabilisation. The biomethanation plant and the micro composting facilities and resource recovery centres of Hosur Municipal corporation shall be made functional to ensure that the fresh wastes are not dumped at the Dasaiyapalli compost yard.

*Dr. Kurian Joseph*  
 27/12/2022

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*Dr. S. Manjani*  
 27/12/2022

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 Professor & Director  
 Centre for Environmental Studies  
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**Table 1 Test result of Water sample collected from Hosur Dasaiyapalli compost yard**

S. No	Parameter	Unit	CES test result			TNPCB Test result			Permissible limits as per IS10500:2012
			Borewell near Dasaiyapalli compost yard (Sample 1)	Borewell in Private land (Sample 2)	Borewell in Chennai mines (Sample 3)	Borewell near Dasaiyapalli compost yard	Borewell near Prathap chowdry land	Borewell in Chennai mines	
			7.75	7.7	8.19	6.64	6.64	6.26	6.50-8.50
1	pH					4.25	4.25	1.44	
2	Electrical conductivity	mS/cm	3.68	1.15	1.42				2000
3	Total Dissolved Solids	mg/L	3200	685	925	2728	2728	900	
4	Total suspended solids	mg/L	Nil	Nil	Nil	Not analysed	Not analysed	Not analysed	
5	Chemical Oxygen demand	mg/L	90	68	76	Not analysed	Not analysed	Not analysed	Nil
5	Alkalinity	mg/L	245	236	245	Not analysed	Not analysed	Not analysed	Nil
6	Hardness	mg/L	1070	310	390	1360	1360	370	600
7	Chloride	mg/L	778	103	176	930	930	170	1000
8	Sulphates	mg/L	110	46	62	90	90	32	400
9	Total arsenic as (AS)	mg/L	BDL (DL:0.001)	BDL (DL:0.001)	BDL (DL:0.001)	<0.01	<0.01	<0.01	0.05
10	Cadmium (as Cd)	mg/L	BDL (DL:0.002)	BDL (DL:0.002)	BDL (DL:0.002)	<0.0008	<0.0008	<0.0008	0.003
11	Total Chromium (as Cr)	mg/L	BDL (DL:0.01)	BDL (DL:0.01)	BDL (DL:0.01)	<0.05	<0.05	<0.05	0.05
12	Copper (as Cu)	mg/L	BDL	BDL	BDL	<0.0015	<0.0015	<0.0015	1.50
13	Mercury (as Hg)	mg/L	BDL (DL:0.001)	BDL (DL:0.001)	BDL (DL:0.001)	<0.003	<0.003	<0.003	0.001
14	Nickel (as Ni)	mg/L	BDL (DL:0.01)	BDL (DL:0.01)	BDL (DL:0.01)	<0.006	<0.006	<0.006	0.02
15	Lead (as Pb)	mg/L	BDL (DL:0.005)	BDL (DL:0.005)	BDL (DL:0.005)	<0.015	<0.015	<0.015	0.01
16	Zinc (as Zn)	mg/L	BDL (DL:0.005)	BDL (DL:0.08)	BDL (DL:0.08)	<0.0015	<0.0015	<0.0015	15

Table 2 Test result of soil sample collected from Hosur Dasaiyapalli compost yard

S. No	Parameter	Unit	Dumpsite north side			Dumpsite north east side in cleared area			Dumpsite south side in cleared area			Dumpsite south east side in cleared area			Permissible limits as per SWM Rules, 2016
			At surface	At 25 cm depth	At 1m depth	At surface	At 25 cm depth	At 1m depth	At surface	At 25 cm depth	At 1m depth	At surface	At 25 cm depth	At 1m depth	
1	pH		5.9	6.2	6.2	8.1	7.7	7.4	6.8	7.2	6.8	7.2	7.6	7.6	6.5-7.5
2	Total arsenic (As)	mg/kg	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	10
3	Cadmium (Cd)	mg/kg	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	5
4	Total Chromium (Cr)	mg/kg	19.02	21.2	26.09	2.07	6.41	18.7	10.43	4.13	10.43	BDL	BDL	22.82	50
5	Copper (Cu)	mg/kg	10.83	3.31	3.78	4.15	1.13	4.08	2.71	0.92	2.2	0.37	0.19	3.97	300
6	Mercury (Hg)	mg/kg	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.15
7	Nickel (Ni)	mg/kg	14.58	18.12	11.86	8	7.15	12.7	9.32	5.84	10.49	0.85	1.46	8.11	50
8	Lead (Pb)	mg/kg	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	100
9	Zinc (Zn)	mg/kg	15.14	10.55	14.13	13.63	12.04	17.11	9.93	16.13	11.56	4.65	5.14	11.4	1000

Table 3 Test result of soil sample collected by TNPCB at Hosur Dasaiyapalli site premises

S.No	Parameter	Unit	Dumpsite western side	Dumpsite south side in cleared area	Dumpsite south east side in cleared area
1	pH		4.56	5.45	5.58
2	Total arsenic as (AS)	mg/Kg	BLQ (LOQ:2.0)	BLQ (LOQ:2.0)	BLQ (LOQ:2.0)
3	Cadmium (as Cd)	mg/Kg	BLQ (LOQ:2.0)	BLQ (LOQ:2.0)	BLQ (LOQ:2.0)
4	Total Chromium (as Cr)	mg/Kg	5.95	13.58	14.75
5	Copper (as Cu)	mg/Kg	3.56	8.36	14.47
6	Mercury (as Hg)	mg/Kg	BLQ (LOQ:2.0)	BLQ (LOQ:2.0)	BLQ (LOQ:2.0)
7	Nickel (as Ni)	mg/Kg	3.47	6.87	6.65
8	Lead (as Pb)	mg/Kg	4.5	3.09	4.645
9	Zinc (as Zn)	mg/Kg	13.98	9.12	15.55