

BEFORE THE HONOURABLE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE, CHENNAI

Original Application No.143 of 2020 (SZ)
With
Original Application no. 182 of 2021(SZ)

Applicant : K K Muhammed Iqbal

Versus

Respondent : The Kerala State Pollution Control Board
& Others

with

Applicant : Mahesh Kumar, Ernakulam

Versus

Respondent : The Kerala State Pollution Control Board
& Others

INTERIM REPORT OF THE JOINT COMMITTEE IN THE MATTER OF
ORIGINAL APPLICATION NO. 143 OF 2020 & ORIGINAL APPLICATION NO.
182 of 2021



Standing counsel for the 1st respondent

Rema Smrithi. V. K., Advocate
Additional Standing Counsel,
National Green Tribunal, (SZ), CHENNAI

**BEFORE THE HONOURABLE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE, CHENNAI**

Original Application No.143 of 2020 (SZ)

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Original Application no. 182 of 2021(SZ)

Applicant : K K Muhammed Iqbal

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**Respondent : The Kerala State Pollution Control Board
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Dated this the 14th day of February, 2023.

**Rema Smrithi. V. K., Advocate
Standing Counsel for the 1st Respondent**

INTERIM REPORT OF THE JOINT COMMITTEE IN THE MATTER OF ORIGINAL APPLICATION NO. 143 OF 2020, K MUHAMMED IQBAL Vs KERALA STATE POLLUTION CONTROL BOARD AND OTHERS & ORIGINAL APPLICATION NO. 182 of 2021 , SRI. MAHESHKUMAR Vs KERALA STATE POLLUTION CONTROL BOARD AND OTHERS SUBMITTED BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL SOUTH ZONE BENCH, AS PER THE ORDER DATED 09.01.2023

1. In the matter of original application No. 143 of 2020 K Muhammed Iqbal Vs Kerala State pollution Control Board and Others, the National Green Tribunal (SZ) *constituted a joint committee vide its order dated 13.04.2021* comprising of Senior Officer from Central Pollution Control Board (CPCB), Kerala State Pollution control Board (KSPCB), Scientist from Kerala Agricultural University and Senior Soil conservation officer, Department of Soil Survey and Soil Conservation to look into the following matters.

1. Whether the activities of respondent company had contributed for the contamination of soil in the nearby agricultural lands
2. Whether the respondent company is complying with conditions imposed by the regulators in their consent/clearance granted
3. Whether the industrial waste that is being generated during their manufacturing process have been dealt with scientifically as per the respective rules dealing with the hazardous substance disposals.
4. Whether any of the past activities of respondent company still continues, which results in continues pollution causing contamination of that area and if that be the case what is the extent of the contamination caused on account of contribution if any, made by the activities of respondents, what is the nature of remediation of action to be taken up for the purpose of remedying the situation in that area and what is the quantum of compensation that has to be realized from the person responsible for such contribution of taking into account of the nature



of violation committed by them and polluted activity that has been produced on account of their operational methods in running the industry.

2. Pursuant to the order, a Joint Committee was formed with the following officials from the respective departments as members of the committee.

1. Chief Environmental Engineer, KSPCB, Regional Office, Ernakulam
2. Sri. Vivek K, SEE/Scientist D, CPCB, RD-Bengaluru
3. Dr. A.K. Sreelatha, Assistant Professor & Head, Rice Research Station, Vyttila
4. Dr. Garggi G, Soil Survey Officer, Office of the Assistant Director, Ernakulam

It is respectfully submitted that the first meeting of the committee was convened on 22.11.2021 through video conference and the following decisions were taken in the meeting.

- a) To conduct a physical meeting (second meeting of the committee) and joint inspection in the company premises and alleged areas by the first or second week of December, 2021.
- b) KSPCB shall present the details with respect to the points 2, 3 & 4 mentioned in the order dated 13.04.2021
- c) CPCB shall coordinate with M/s. ERM (India) Private Limited, the consultant firm who prepared the DPR for the remediation of contaminated site under NCEF project, to make arrangements for the presentation of DPR and the study details. Copy of the minutes of the first joint committee meeting is produced herewith and marked as **Annexure 1**.

3. The second meeting and inspection of the Joint Committee was held on 24.06.2022. Prior intimation was given to the 9th and 10th respondent companies about the meeting of the Committee as the Committee was directed to allow the participation of alleged polluting companies during the meeting and to associate in inspections as directed by the Hon'ble Tribunal in its order dated 13.04.2021. But the company representatives informed their inconvenience for attending the meeting and a representation from them was received through email, which mainly include following details:



“We are ready to execute on-site remediation by removal of jarosite kept in 3 old ponds in our premises by safely disposing it in Pond No.4 constructed as per CPCB guidelines with leak proof HDPE liner and other safe measures.

· In fact, the DPR for Edayar sites under NCEF project has been prepared on an assumption that the off sites in Edayar, namely Edayattuchal and Chakkarachal paddy fields are contaminated only by Zinc ingots. The DPR did not deal with the source of contamination or its pathways. The tender floated by CPCB from consultancy firms for preparing DPR for the contaminated sites itself was on a presumption that source of contamination for off sites in Edayar is our Zinc smelter and the jarosite generated therefrom. It is to be noted that as per the Environment Impact Assessment Report, 2005, prepared by Local Area Environment Committee for Eloor Edayar Area appointed by Supreme Court Monitoring Committee on Hazardous Waste, 4 other industrial units working in Edayar Industrial Area, apart from our company were mentioned as the source of heavy-metal contamination in groundwater and soil of Edayar, based on their analysis report.

The Chief Environmental Engineer of State Pollution Control Board in 2008 by communication dated 22/03/2008 reported to the District Collector, Ernakulam in reply to a complaint regarding contamination of Edayattuchal area that this large tract of paddy fields remains as a dump site, vulnerable for littering any kinds of waste by anyone, which is easily accessible by road. These paddy fields have become not suitable for cultivation by receiving pollutants from about 200 industrial units in the area.

· It also reported that Hazardous Waste (Management and Handling) Rules originally came into force in India in 1989 and after enforcement of the Rules, the company has constructed a pond to store jarosite as per the CPCB guidelines and same is leakproof. The old 3 ponds constructed before the enactment of the Rules were not in compliance with the present guidelines for storage ponds prescribed by CPCB under HWM Rules, hence they were capped and not in use. PCB also admits that the contamination of land in Edayar was due to the historical operation of industries before the commencement of pollution control



laws and that the board is trying to secure assistance of national and international agencies for remediation of the soil and water in Edayar.

· Our unit closed its operation since November 2014 due to financial crunches. The DPR has been prepared by the consultancy by conducting preliminary and remedial investigation in Edayar sites during the period from 2015 to 2017, while our company was not in operation. The DPR has been prepared on a hypothetical assumption that the offsites in Edayar was contaminated due to the operation of our unit. The DPR did not consider the available studies regarding the site such as the EIA study report made by the Local Area Environment Committee. Unfortunately, during the remedial investigation or in the finalisation of DPR, we couldn't get an opportunity to place our concerns with respect to the subject matter since the unit was not in operation and possession of the premises was taken over by the secured creditor bank. The agencies conveniently put all blame for contaminated sites on our company since we were closed. It is easy to put the blame for all the sins upon a dead horse. The DPR has marked such a huge amount for remediation and put the entire liability on our shoulders, in negation of natural justice to us. None should be condemned unless heard, the adage was forgotten while finalising the DPR and liability for remediation cost upon us. Moreover, the remedial plan and methodology was prepared on the sample analysis taken much earlier in the year 2015 and 2017. Now more than 5 years have been elapsed since the date of available data. The Edayar area was prone to the massive flood witnessed by the state in the year 2018 and the heavy downpour in the year 2019. Two massive flood and heavy monsoon in the following 5 years, might have impacted many ramifications on the intensity of contamination and on morphology of soil and groundwater in the area. We think that it is essential in the interest of environment to have a detailed remedial investigation in the site enabling formulation of a sound and realistic remedial methodology considering the actual status existing on the ground and by taking note of the data gap occurred after the finalisation of DPR.

· It is also pertinent to note that at the time of inviting expression of interest for preparing DPR for Edayar sites based on the EIA study report prepared by Local Area Environment Committee, the Edayattuchal and Chakkarachalpaddy fields were reported to be not suitable for cultivation. Now after the efflux of time, these paddy fields were found suitable for



cultivation and have been cultivated with paddy for the last few years with the assistance of local bodies and agricultural department.”

4. In the second meeting of the Committee, the representative of M/s.ERM (India) Private Limited conducted a detailed presentation of the DPR prepared for the remediation of Edayattuchal–Chakarachal before the Committee on 24.06.2022. The presentation covered the overview of the project, introduction to the study area and subject sites, reconnaissance and preliminary assessment, preliminary investigation of the contaminated site and development of conceptual plans and sampling protocols, detailed site characterization, detailed site investigation and Tier 1 Risk Assessment, Tier 2 risk assessment, Human health Risk assessment, remedial action plan etc. After detailed discussions and deliberations, the Committee members also made a site visit to the Edayattuchal, Chakarachal, Binani School ground and the premises of M/s. Binani Zinc Ltd (presently Edayar Zinc Ltd), including the capped and uncapped jarosite pond areas.

5. It was observed during the visit that most of the Edayattuchal and Chakarachal area was waterlogged and in submerged condition, making it impossible to access the areas, which were earlier demarcated as having higher levels of contamination. Samples of soil, drain water and well water from the accessible locations were collected for analysis. Some photographs taken during the joint committee inspection are produced herewith and marked as **Annexure 2**. In the meeting it was decided that the results of the samples taken during the visit and other historical data available with the present owners of the unit shall be considered for further preparation of the report. Copy of the minutes of the second joint committee meeting is produced herewith and marked as **Annexure 3**.

6. Consolidated details of analysis results of samples collected from Binani School ground and other contaminated areas on 24.06.2022 is furnished below:



Table 1: Analysis report of the soil sample collected from BZL School Ground Middle

SLUDGE SAMPLE-BZL SCHOOL GROUND MIDDLE							
SL NO	PARAMETERS	UNIT	VALUE	PERMISSIBLE LIMITS (as per HW rules)	As per guidance document for assessment and remediation of contaminated sites in India, MOEF		
					RESPONSE LEVEL	SCREENING LEVEL	
						Residential	Industrial
1	Total Chromium	mg/kg	86.2	64	–	64	87
2	Hexavalent Chromium	mg/kg	BDL	0.4	50	0.4	1.4
3	Manganese	mg/kg	130.2		–	–	–
4	Iron	mg/kg	41720		–	–	–
5	Nickel	mg/kg	6.6	50	100	50	50
6	Copper	mg/kg	33.2	63	190	63	91
7	Zinc	mg/kg	1110	200	720	200	360
8	Lead	mg/kg	33.4	140	530	140	600
9	Cadmium	mg/kg	1.2	10	13	10	22
10	Chloride	mg/kg	106.56		–	–	–

11	Fluorides	mg/kg	1.39	400	-	400	2000
12	Calcium	mg/kg	83.1		-	-	-
13	Sulphate	mg/kg	1023.8		-	-	-

Table:2 Analysis report of the soil sample collected from BZL School Ground East South side

SLUDGE SAMPLE - BZL SCHOOL GROUND EAST SOUTH SIDE							
SL NO	PARAMETERS	UNIT	VALUE	PERMISSIBLE LIMITS (as per HW rules)	As per guidance document for assessment and remediation of contaminated sites in India, MOEF		
					RESPONSE LEVEL	SCREENING LEVEL	
						Residential	Industrial
1	Total Chromium	mg/Kg	52.8	64	-	64	87
2	Hexavalent Chromium	mg/Kg	BDL	0.4	50	0.4	1.4
3	Manganese	mg/Kg	125.8		-	-	-
4	Iron	mg/Kg	28600		-	-	-
5	Nickel	mg/Kg	6.2	50	100	50	50

6	Copper	mg/Kg	20.6	63	190	63	91
7	Zinc	mg/Kg	557	200	720	200	360
8	Lead	mg/Kg	27.4	140	530	140	600
9	Cadmium	mg/Kg	BDL	10	13	10	22
10	Chloride	mg/Kg	147.15		-	-	-
11	Flurides	mg/Kg	0.66	400	-	400	2000
12	Calcium	mg/Kg	288.3		-	-	-
13	Sulphate	mg/Kg	1048.6		-	-	-

Table 3: Analysis report of the water sample collected from BZL School

WATER SAMPLE -BZL SCHOOL GROUND				
SL NO	PARAMETERS	UNIT	VALUE	PERMISSIBLE LIMITS (Canadian water quality Guidelines for the protection of Agriculture) Irrigation [µg/ L]
1	Total Chromium	µg/ L	60	-



2	Hexavalent Chromium	µg/ L	BDL	8
3	Manganese	µg/ L	139800	200
4	Iron	µg/ L	40400	5000
5	Nickel	µg/ L	140	200
6	Copper	µg/ L	570	Variable
7	Zinc	µg/ L	536500	-
8	Lead	µg/ L	30	200
9	Cadmium	µg/ L	370	5.1
10	Chloride	µg/ L	175700	Variable
11	Flurides	µg/ L	920	1000
12	Calcium	µg/ L	144000	-

13	Sulphate	µg/L	155200	No data
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Table 4: Analysis report of the water sample collected from open well near BZL School Ground

WATER SAMPLE -OPEN WELL NEAR SCHOOL GROUND				
SL NO	PARAMETERS	UNIT	VALUE	PERMISSIBLE LIMITS IS 10500 : 2012
1	Total Chromium	mg/L	0.04	–
2	Hexavalent Chromium	mg/L	BDL	0.05
3	Manganese	mg/L	79.4	0.1
4	Iron	mg/L	0.43	0.3
5	Nickel	mg/L	0.12	0.02
6	Copper	mg/L	0.08	1.5
7	Zinc	mg/L	322.6	5
8	Lead	mg/L	0.04	0.01
9	Cadmium	mg/L	0.12	0.003

10	Chloride	mg/L	18.86	250
11	Flurides	mg/L	0.56	1
12	Calcium	mg/L	109	75
13	Sulphate	mg/L	67.9	200

Table 5: Analysis report of the water sample collected from Kuthu thodu starting point

WATER SAMPLE-KUTHUTHODU STARTING POINT				
SL NO	PARAMETERS	UNIT	VALUE	PERMISSIBLE LIMITS (Canadian water quality Guidelines for the protection of Agriculture) Irrigation [µg/ L]
1	Total Chromium	µg/ L	10	—
2	Hexavalent Chromium	µg/ L	BDL	8
3	Manganese	µg/ L	320	200



4	Iron	µg/ L	5260	5000
5	Nickel	µg/ L	BDL	200
6	Copper	µg/ L	BDL	Variable
7	Zinc	µg/ L	420	—
8	Lead	µg/ L	BDL	200
9	Cadmium	µg/ L	BDL	5.1
10	Chloride	µg/ L	28800	Variable
11	Flurides	µg/ L	100	1000
12	Calcium	µg/ L	46400	—
13	Sulphate	µg/ L	35600	No data



Table 6: Analysis report of the water sample collected from thodu near Glastec Industries

WATER SAMPLE- THODU NEAR GLASTEE INDUSTRIES				
SL NO	PARAMETERS	UNIT	VALUE	PERMISSIBLE LIMITS (Canadian water quality Guidelines for the protection of Agriculture) Irrigation [µg/ L]
1	Manganese	µg/ L	12000	200
2	Chloride	µg/ L	31800	Variable
3	Fluorides	µg/ L	310	1000
4	Nitrate	µg/ L	51	–
5	Copper	µg/ L	30	Variable
6	Total Chromium	µg/ L	50	–
7	Zinc	µg/ L	50200	–

8	Lead	µg/L	20	200
9	Calcium	µg/L	107400	–
10	Cadmium	µg/L	BDL	5.1
11	Nickel	µg/L	40	200

7. The third meeting of the committee was held on 25.10.2022 to discuss the analysis report of the samples taken by the committee during the last site visit conducted on 24.06.2022. As per the analysis report of the soil sample collected from the middle of the Binani School ground, zinc concentration obtained is 1110 mg/kg against 720 mg/kg, the response level prescribed for remediation, sample collected from the south east side of the ground is 557 mg/kg, which is below the response level, but above the screening level of 200 mg/kg. In the nearest open well, zinc concentration obtained is 322.6mg/l against the permissible limit of 5 mg/l. The analysis reports reveal the possibility of leakage from the pond no.4 of the unit, which is reported to be scientifically designed as per the CPCB guidelines. After the discussion, the following decisions were taken by the committee.

1. KSPCB shall share the analysis reports of the samples collected during the last visit to all the committee members.
2. Health data within 2-3 km radius shall be collected from the Primary Health Centre Random sampling shall be done from the wells already monitored during the preparation of DPR.
3. Jarosite sample from the pond no.4 (composite sample) (shall be collected and analysed with prior intimation to the company).



4. Location of the pond no.1,2,3 and the monitoring wells inside the company shall be identified with the help of company authorities

5. An interim report shall be submitted to the tribunal before the next date of hearing.

Copy of the minutes of the third meeting of the committee is produced herewith and marked as **Annexure 4.**

. In compliance with the decisions taken during the meeting, jarosite samples from the pond no.4 of the unit and water samples from 10 no. of randomly chosen wells were collected and forwarded to the Central Laboratory, KSPCB for analysis of relevant parameters. The analysis report of these samples are awaited. A request has also been given to Primary Health Centre, Binanipuram for providing the health data within 2-3 km radius and the same is awaited.

Submission:

In view of the above and considering that the analysis results of some of the relevant samples and the health data are awaited, it is respectfully prayed that the Hon'ble Tribunal may kindly grant a further time of 3 months for completing the study and filing the final report.



**Vivek K ,
SEE / ScientistD,
CPCB, RD-Bengaluru**



**Baburajan P. K.
CEE, RO, Ernakulam**



**Dr. A. K. Sreelatha,
Associate Professor & Head,
Rice Research Station, Vyttila
Ernakulam**



**Dr. GarggiG
Soil Survey Officer
Office of the Assistant
Director, Ernakulam**

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

**Original Application No.143 of 2020 (SZ)
With
Original Application no. 182 of 2021(SZ)**

Applicant : K K Muhammed Iqbal

Versus

**Respondent : The Kerala State Pollution Control Board
& Others**

with

Applicant : Mahesh Kumar, Ernakulam

Versus

**Respondent : The Kerala State Pollution Control Board
& Others**

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Dated this the 14th day of February, 2023.

**Rema Smrithi. V. K., Advocate
Standing Counsel for the 1st Respondent**

Minutes of the first meeting (video conference) of the committee constituted as per the order dated 13.04.2021 of the Hon'ble NGT in O.A no.143/2020 held on 22.11.2021

Meeting started at 11.00AM.

The following members and officials were attended the meeting.

1. Sri. Baiju M.A, Chief Environmental Engineer, KSPCB, Regional Office, Ernakulam
2. Sri. Vivek K, SEE/Scientist D, CPCB, RD-Bengaluru
3. Dr. A.K. Sreelatha, Assistant Professor & Head, Rice Research Station, Vyttila
4. Dr. Garggi G, Soil Survey Officer, Office of the Assistant Director (Soil Survey), Ernakulam
5. Smt. Vinaya K S, Senior Environmental Engineer, KSPCB, Environmental Surveillance Centre, Eloor
6. Smt.ShahanaM.A,Assistant Environmental Engineer,KSPCB, Regional Office, Ernakulam
7. Smt.Susan P Thomas,Assistant Engineer, KSPCB, Regional Office, Ernakulam

Chief Environmental Engineer, Kerala State Pollution Control Board,Regional Office,Ernakulam, the nodal officer of the committee, in his welcome speech, gave a brief introduction about the O.A.No.143 of 2020 filed before the Hon'ble NGT. He pointed out that the grievance of the petitioner is that serious environmental degradation has been caused to the nearby agricultural land in Edayar Area on account of the operation of M/s.Edayar Zinc Ltd (formerly Binani Zinc Limited), a zinc smelting unit.He further explained that a Detailed Project Report(DPR) for an amount of Rs.47.88 crore was prepared by M/s ERM (India) Private Limited, an accredited agency appointed by the Central Pollution Control Board(CPCB).Board had initiated certain steps to recover the amount from the company.But the respondent company had filed a counter affidavit denying the allegations made against them explaining that there are other industries also which were functioning along that area and contributed to such pollution load. *They had made further contentions that nature of the heavy*

metals found in the contaminated soil will go to show that no part of the waste that is being generated in the process of the company and as such they cannot be directed to pay the amount towards remediation process. In response to the counter affidavit filed by the company, the Hon'ble NGT through the order dated 13.04.2021 constituted this committee to look into the following matters.

1. Whether the activities of respondent company had contributed for the contamination of soil in the nearby agricultural lands
2. Whether the respondent company are complying with conditions imposed by the regulators in their consent/clearance granted
3. Whether the industrial waste that is being generated during their manufacturing process have been dealt with scientifically as per the respective rules dealing with the hazardous substance disposals
4. Whether any of the past activities of respondent company still continues, which results in continues pollution causing contamination of that area and if that be the case what is the extend of the contamination caused on account of contribution if any, made by the activities of respondents what is the nature of remediation of action to be taken up for the purpose of remedying the situation in that area and what is the quantum of compensation that has to be realised from the person responsible for such contribution of taking into account of the nature of violation committed by them and polluted activity that has been produced on account of their operational methods in running the industry.

After detailed deliberations, it was decided to invite M/s.ERM (India) Private Limited for a detailed presentation of the DPR by which the role of the industry in question could be revealed/identified. Sri. Vivek, SEE/Scientist D, CPCB, RD-Bengaluru also brought the directions given by Hon'ble NGT in another connected matter, i.e OA No. 182 of 2021, to the notice of the Committee, wherein the same Committee is entrusted to look into the contentions raised by the petitioner. Further it was informed that CPCB shall try to coordinate with representatives of M/s ERM for making arrangement for presenting the DPR study findings before the Committee.

Dr. Garggi G, Soil Survey Officer, Office of the Assistant Director, Ernakulam made a request that a brief note on this issue may be made available for better understanding on this issue

After the discussions, the following decisions were taken.

1. Conduct a physical meeting (second meeting of the committee) and joint inspection in the company premises and alleged areas by the first or second week of December,2021.
2. KSPCB shall present the details with respect to the points **2,3&4** directions of the Hon'ble NGT order mentioned above.
3. CPCB shall coordinate with M/s. ERM (India) Private Limited to make arrangements for the presentation of DPR and the study details.

Meeting ended at 11.45 PM.

Dr. A.K. Sreelatha,
Asst. Professor and Head,
Rice Research Station,
Vytilla,

Dr.Garggi G
Soil Survey officer
Office of the Assistant
Director (Soil Survey),
Ernakulam

Vivek K,SEE/Scientist D,
CPCB, RD-Bengaluru

Baiju M A
CEE, RO, Ernakulam

Photographs taken during the inspection on 24.06.2022



Binani School ground



Inaccessible water logged and in submerged areas of Edayattuchal and Chakarachal (1)



Inaccessible water logged and in submerged areas of Edayattuchal and Chakarachal (2)



Inaccessible water logged and in submerged areas of Edayattuchal and Chakarachal (3)



Thodu near Glastec industries



SLF pond no. 4 of M/s. Binani Zinc Ltd.

**Minutes of the second meeting of the Committee constituted
as per the order dated 13.04.2021 of the Hon'ble NGT in O.A
no.143/2020 held on 24.06.2022**

Meeting of the Committee started at 10.30AM.

The following members and officials were present during the meeting.

1. Sri. Baburajan P K, Chief Environmental Engineer, KSPCB, Regional Office, Ernakulam
2. Sri. Vivek K, SEE/Scientist D, CPCB, RD-Bengaluru
3. Dr. A.K. Sreelatha, Associate Professor & Head, Rice Research Station, Vyttila
4. Dr. Garggi G, Soil Survey Officer, Office of the Assistant Director, Department of Soil Survey & Soil Conservation, Ernakulam
5. Smt. Vinaya K S, Senior Environmental Engineer, KSPCB, Environmental Surveillance Centre, Eloor
6. Smt. Shahana M.A, Assistant Environmental Engineer, KSPCB, Regional Office, Ernakulam
7. Sri. Sajeesh Joy, Assistant Environmental Engineer, KSPCB, Environmental Surveillance Centre, Eloor
8. Kumari. Anagha S, Assistant Engineer, KSPCB, Regional Office, Ernakulam

The Chief Environmental Engineer, nodal officer of the Committee gave a brief introduction of the O.A.No.143 of 2020 filed before the Hon'ble NGT in his welcome speech. He pointed out that KSPCB already shared the brief note on the consent compliance, action taken against the violations noticed, etc. with the committee members. He also informed that intimation was given to the 9th and 10th respondent companies about the meeting of the committee, as committee members were directed to allow the participation of alleged polluting companies during the meeting and

inspections as directed by the Hon'ble Tribunal in its order dated 13.04.2021. But the company representatives informed their inconvenience for attending the meeting. The Chief Environmental Engineer therefore requested the company to submit their representation in writing, if any, to the committee. After that, he invited the representative of M/s.ERM (India) Private Limited for a detailed presentation of the DPR. Sri. Padmanabhan Girnathan Nair, representative of M/s.ERM (India) Ltd, presented the DPR prepared for the remediation of Edayattuchal-Chakarachal. The presentation covered the overview of the project, introduction to the study area and subject sites, reconnaissance and preliminary assessment, preliminary investigation of the contaminated site and development of conceptual plans and sampling protocols, detailed site characterization, detailed site investigation and Tier 1 Risk Assessment, Tier 2 risk assessment, Human health Risk assessment, remedial action plan etc. After detailed discussions and deliberations, the Committee members visited the Edayattuchal, Chakarachal, Binani School ground and the premises of M/s. Binani Zinc (presently Edayar Zinc Ltd.), including the capped and uncapped jarosite pond areas. Samples of soil, drain water and well water from the accessible locations were also collected, as detailed below and handed over to the Central laboratory for analysis.

1. Binani School Ground (Middle) : Soil
2. Binani School Ground(South side) :Soil
3. Binani School Ground :Water
4. Open well near school ground : surface water
5. Kuthuthodu Starting point :Water
6. Thodu near Glastec industries :Water

During the visit, it was observed that most of the Edayattuchal and Chakarachal area was water logged and in submerged condition, making it impossible to access the areas, which were earlier demarcated as having higher levels of contamination. As observed during the presentation, higher levels of heavy metal Zinc was mostly observed during the DPR preparation studies, in these locations, both in surface soil and ground water.

It was decided that the results of the samples taken during the visit and other historical data available with the present owners of the unit shall be considered for further preparation of the report and if required, adequate time shall be sought from the Tribunal, considering the present status of the area. All the Committee members were also requested to report their views/comments, if any, to the nodal officer at the earliest as the committee is required to file the preliminary report before the Hon'ble Tribunal before 25.07.2022, the next hearing date of this application.

Meeting and inspection of the Joint Committee ended at 5.00PM.



**Vivek K, SEE/Scientist D,
CPCB, RD-Bengaluru**



**Baburajan PK
CEE,RO,Ernakulam**



**Dr.Sreelatha.A.K
Associate Professor & Head
Rice Research Station, Vyttila
Ernakulam**



**Dr.Garggi G
Soil Survey officer
Office of the Assistant
Director**

**Minutes of the third meeting of the Committee constituted as per
the order dated 13.04.2021 by the Hon'ble NGT in O.A.**

No.143/2020, held on 25.10.2022

Third meeting of the Committee, constituted as above, was conducted at KSPCB, Regional Office, Ernakulam and started at 10.30 AM. The following members and officials were present during the meeting and attended the meeting through VC, except officials from KSPCB, Regional Office, Ernakulam.

1. Sri.BaburajanPK,ChiefEnvironmentalEngineer,KSPCB,RegionalOffice,Ernakulam
2. Sri. Vivek K, SEE/Scientist D, CPCB, RD-Bengaluru
3. Dr. A. K. Sreelatha, Assistant Professor & Head, Rice Research Station, Vyttila
4. Dr. Garggi G, Soil Survey Officer, Office of the Assistant Director, Department of Soil Survey & Soil Conservation, Ernakulam
5. Smt. Vinaya K S, Senior Environmental Engineer, KSPCB, Environmental Surveillance Centre, Eloor
6. Smt. Shahana M. A, Assistant Environmental Engineer, KSPCB, Regional Office, Ernakulam

The Chief Environmental Engineer, Nodal Officer of the Committee, welcomed all to the meeting and presented the analysis report of the samples taken by the committee during the last site visit held on 24.06.2022. He pointed out that as per the analysis report of the soil sample collected from the middle of the Binani School ground, zinc concentration obtained is 1110 mg/kg against 720 mg/kg, the response level prescribed for

remediation. Similarly soil sample collected from the south east side of the ground reported 557mg/kg of zinc, which is below the response level, but above the screening level of 200mg/kg. In the seepage water sample collected at the ground, the concentration of zinc obtained is 536.5mg/l against the permissible limit of 5mg/l. Further the nearest well water sample collected depicts zinc concentration as 322.6mg/l against the permissible limit of 5mg/l. The analysis reports primarily indicates the possibility of leakage from the SLF pond no.4 of the unit claims to be constructed scientifically and designed as per the CPCB guidelines.

Sri. Vivek K, SEE/Scientist D, CPCB, RD-Bengaluru opined that even if Jarosite is delisted from the hazardous waste as per the amended Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016, the samples of Jarosite/ waste stored in the SLF ponds needs to be analysed to assess the present condition and to correlate with the results obtained. The location and present condition of the other 3 ponds, which were previously used by the unit for storing Jarosite/ waste also needs to be identified and assessed. Dr. Garggi G, Soil Survey Officer, Office of the Assistant Director, Department of Soil Survey & Soil Conservation, Ernakulam opined that since the nearest open well reflects contamination, a random monitoring of other nearby wells shall be helpful to assess the spread and possibility of contamination. She also enquired regarding availability of any health data in the area concerned and suggested for collecting the same, if not available. Dr. A. K. Sreelatha, Assistant Professor & Head, Rice Research Station, Vyttila informed that the data regarding the ground water monitoring wells is available with the website of CGWD and can be obtained.

After discussions, the following decisions were taken.

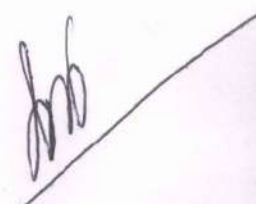
1. KSPCB shall share the analysis reports of the samples

- collected during the last visit to all the committee members.
2. Health data within 2-3km radius shall be collected from the Primary Health Centres. (Action: SEE, ESC, Eloor)
 3. Random sampling shall be conducted from the wells already monitored during the preparation of DPR. (Action: SEE, ESC, Eloor)
 4. Jarosite sample from the pond no.4 (composite sample) (shall be collected and analyzed with prior intimation to the company. (Action: SEE, ESC, Eloor)
 5. Location of the pond nos. 1, 2 & 3 and the monitoring wells inside the company shall be identified with the help of company authorities
 6. An interim report shall be submitted to the tribunal before the next date of hearing, i.e on 29.11.2022.


Meeting of the Joint Committee ended at 11.45 PM with thanks to the chair.




Vivek K,
SEE/Scientist D,
CPCB, RD-Bengaluru



Baburajan P K
CEE, RO, Ernakulam



Dr. A. K. Sreelatha,
Associate Professor & Head,
Rice Research Station, Vyttila
Ernakulam



Dr. Garggi G
Soil Survey officer
Office of the Assistant
Director, Ernakulam