

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL SOUTHERN ZONE,
CHENNAI CIRCUIT BENCH
APPLICATION NO.39 OF 2024(SZ)

Applicant(s) :: Sri. Jonatt Jose, S/o Sri. Jose, Nalukettu, Koratty

Respondents :: The Secretary, MoEF and CC & others

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Dated this the 16th day of April, 2026.



Rema Smrithi VK
Standing Counsel for KSPCB



SIXTH RESPONDENT

SMITHA C. V.
Environmental Engineer
Kerala State Pollution Control Board
District Office, Thrissur

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
SOUTHERNZONE, CHENNAI

Application no. OA 39 of 2024 (SZ)

Applicant(s) : Sri. Jonatt Jose,
S/o Sri. Jose, Nalukettu, Koratty

Vs.

Respondents :The Secretary, MoEF and CC & others

**REPORT FILED BY THE ENVIRONMENTAL ENGINEER, KERALA
STATE POLLUTION CONTROL BOARD, DISTRICT OFFICE,
THRISSUR, THE 6th RESPONDENT**

I, Smitha. C. V, aged 45 years, wife of Rigesesh, residing at Thrissur district, working as the Environmental Engineer, Kerala State pollution control Board, District office, Thrissur, do hereby solemnly affirm and state as follows:

1. I am the Environmental Engineer, Kerala State Pollution Control Board (herein after referred to as Board), District office, Thrissur. I am aware of the facts affirmed by me in this report. I am swearing that this is the report based on the best of my knowledge, information and belief and the facts revealed from the records. I am filing this Affidavit on behalf of the 6th respondent, as duly authorized.
2. In due compliance with the interim order dated 12.12.2025 of the Honourable National Green Tribunal, an inspection was conducted at Carborundum Universal Limited, Koratty on 10.02.2026 at 10.30 am in the presence of the applicant Sri. Jonatt Jose. The plant representatives gave a brief presentation on the manufacturing process, specifications and quantity of raw materials used, air pollution control devices

SMITHA C. V.
Environmental Engineer
Kerala State Pollution Control Board
District Office, Thrissur



Smitha C. V.
SMITHA C. V.
Environmental Engineer
Kerala State Pollution Control Board
District Office, Thrissur

provided. As per the information gathered from the industry, pet coke is used as raw material and the carbon from the pet coke acts as a reducing agent by removing oxygen from silicon dioxide to form silicon carbide. The raw material is heated to temperature of about 2000⁰C. A reducing atmosphere is created inside the furnace by covering the active materials by thick layer of unreacted mix. It was explained during the inspection that in the process, pet coke is used as a raw material and is not used as a fuel as the coke is not burnt to produce heat or power. The applicant was shown in detail the furnace plant, air pollution control measures provided such as suction blowers, cyclones, dust collection towers, and also the real time continuous ambient air quality monitoring devices. The various stages of the furnaces at the time of inspection are given in the table below.

Furnace number	Stage of process
2	Natural Cooling
3	Firing stage (34 hours completed)
4	Filling stage
5	Natural Cooling
6	Firing stage (24 hours completed)
7	Water cooling
9	Unloading stage
10	Cooking stage
11	Firing stage (10 hours completed)

Table 1:-Various stages of furnaces on 10.02.2026

3. It is respectfully submitted that the Fuel Policy is specifically emphasized on the use of pet coke and furnace oil as fuel. The State Fuel Policy is yet to be prepared. In this case, pet coke is used as a raw material and not as a fuel.

V. C. AHIMS
Environmental Engineer
Kerala State Pollution Control Board
District Office, Thrissur



Signature
SMITHA C. V.
Environmental Engineer
Kerala State Pollution Control Board
District Office, Thrissur

4. In order to assess the pollution effects as alleged by the applicant, this respondent has conducted an ambient air quality monitoring for 2 days i.e. 48 hours starting from 10.45 am of 8.01.2026 to 10.45 am of 10.01.2026 at the plant. This was done as the entire fusion and cooling process period of manufacturing of silicon carbide takes about 48 hours. Stack monitoring was also conducted on these two days.
5. For the ambient air quality monitoring four locations were selected for sampling; inside the furnace plant, 20 meters towards east from the furnace plant, at the main gate on the east and on the top of a single storey building in the premises of the unit at about 40.0m from the furnace plant towards west side. A google map image showing the sampling location of ambient air quality monitoring is attached as **Annexure R6(a)**. This is done to assess the concentrations of the pollutants in fugitive emissions. The gaseous parameters sampled included Sulphur dioxide (SO₂), Oxides of Nitrogen (NO_x), Hydrogen Sulphide (H₂S). The Carbon Monoxide (CO) was sampled only inside the furnace plant. Particulate matter (PM), PM 10 and PM 2.5 were also sampled except at location inside the furnace plant. Stack monitoring was conducted twice on each day and the parameters determined were PM, SO₂, NO_x, H₂S
6. The nine furnaces were under various stages of processing on these two days and their details are furnished in the table below. The furnaces are designated as 2,3,4,5,6,7,9,10,11

V. C. AHTIMS
Environmental Engineer
Kerala State Pollution Control Board
District Office, Thrissur



Smitha

SMITHA C. V.
Environmental Engineer
Kerala State Pollution Control Board
District Office, Thrissur

Furnace number	Stage of process
2	Under water cooling
3	Cooking stage (a stage to bring down the temperature after stopping the electricity flow to furnace)
4	Fired at 10.45
5	water cooling
6	Firing stage(36 hours completed)
7	Unloading stage
9	Water cooling completed and waiting for unloading
10	Water cooling
11	Firing stage-20hrs completed

Table 2- Various stages of furnaces on 08.01.2026 at 10.45 am

Furnace number	Stage of process
2	Water cooling completed waiting for unloading
3	Under natural cooling
4	Firing stage- 24hours completed
5	Water cooling (final stages)
6	Cooking stage
7	Firing stage - 13 hrs completed
9	Filling
10	Water cooling (final stages)
11	Firing stage-44 hrs completed

Table 3- Various stages of furnaces on 09.01.2026 at 10.45 am



SMITHA C. V.
SMITHA C. V.
 Environmental Engineer
 Kerala State Pollution Control Board
 District Office, Thiruvananthapuram

7. It was ensured that emissions from all stages of process like loading, unloading, firing, water cooling and natural cooling were monitored in the ambient air quality monitoring. Pollution control measure consisting of hood, cyclone separator and dust collection chamber were employed for the furnaces under cooling and firing. In a furnace, pet coke filled is 12.2 t, quartz used is 15.2 t and about 65.9 t of reprocessed materials i.e. unreacted/ partially reacted materials from previous firing stage are used. So the total materials used in a furnace come to about 93.3 t.
8. The results of the ambient air quality monitoring and stack monitoring are furnished in the tables below. Copy of the result of ambient air monitoring is hereby attached as **Annexure R6(b)**, Copy of the result of stack monitoring as **Annexure R6(c)**, as **Annexure R6(d)**, as **Annexure R6(e)**, as **Annexure R6(f)**.

Parameters	Monitoring locations				National ambient air quality standards (24 hour average)
	inside the furnace plant	20 meters towards east of furnace plant	at the main gate on the east	On building at west side in the plant premises	



SMITHA C. V.
SMITHA C. V.
 Environmental Engineer
 Kerala State Pollution Control Board
 District Office, Thrissur

Particulate matter PM 10	-----	83.33	53.66	73.33	100
Particulate matter PM 2.5	-----	70	36	55	60
Oxides of Nitrogen (NO _x)	0.07	0.08	0.19	0.02	80
Sulphur dioxide (SO ₂)	0.3	0.74	0.18	0.13	80
Hydrogen Sulphide (H ₂ S)	BDL	BDL	BDL	BDL	----
Carbon Monoxide (CO)	<2	---	---	---	2 (for eight hour average)

Table 4 :- 24 hour average ambient air quality monitoring results (10.45 am on 8.01.20226 – 10.45 am on 9.01.2026)



Signature
SMITHA C. V.
 Environmental Engineer
 Kerala State Pollution Control Board
 District Office, Thrissur

SMITHA C. V.
 Environmental Engineer
 Kerala State Pollution Control Board
 District Office, Thrissur



Parameters	Monitoring locations				National ambient air quality standards (24 hour average)
	inside the furnace plant	20 meters toward east off furnace plant	at the main gate on the east	On building at west side in the plant premises	
Particulate matter PM 10	-----	84.66	54.66	71.33	100
Particulate matter PM 2.5	-----	67	38	60	60
Oxides of Nitrogen (NO _x)	0.08	0.12	0.13	0.12	80
Sulphur dioxide (SO ₂)	1.38	1.93	0.54	1.04	80
Hydrogen Sulphide (H ₂ S)	BDL	BDL	BDL	BDL	----

V. C. AHTIM
Environmental Engineer
Kerala State Pollution Control Board
District Office, Thrissur



SMITHA C. V.
Environmental Engineer
Kerala State Pollution Control Board
District Office, Thrissur

Carbon Monoxide (CO)	<2	---	---	---	2 (for eight hour average)
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Table 5 :- 24 hour average ambient air quality monitoring results (10.45 am on 9.01.20226– 10.45 am on 10.01.2026)

9. The results of stack monitoring are shown in the table below

Parameters	08.01.2026		09.01.2026		Prescribed Standards in mg/Nm ³
	At 12 noon	At 1500 hours	At 1145 hours	At 1500 hours	
Particulate matter	9.62	11.2	16.7	19.4	150
Sulphur dioxide	60.3	55	152	165	400
Oxides of Nitrogen	18.5	23.1	27.9	29.6	600
Hydrogen sulphide	<2	<2	<2	<2	

Table 6 :- Stack monitoring results of two days (8.01.2026 and 9.01.2026)

10. It is humbly submitted that this respondent has conducted a detailed monitoring which includes all the stages in the manufacturing process of the silicon carbide and the locations are so selected that concentrations in

V. C. ANTIM
Environmental Engineer
Kerala State Pollution Control Board
District Office, Thrissur



SMITHA C. V.
SMITHA C. V.
Environmental Engineer
Kerala State Pollution Control Board
District Office, Thrissur

the fugitive emissions can also be determined. From the results of ambient air quality monitoring it is observed that all the parameters are within the permissible limits of National Ambient Air Quality Standards. The results of stack monitoring are also well within the limits prescribed by the Board. Hence it is respectfully submitted that pollution control measures provided in the unit are adequate.

Dated this the 16th day of April, 2026



SIXTH RESPONDENT

VERIFICATION

I, Smitha. C. V, working as the Environmental Engineer, Kerala State Pollution Control Board, District office, Thrissur, the Sixth Respondent above named, do hereby solemnly affirm and verify that the contents of paragraphs 1 to 9 of this Affidavit are true and correct to the best of my knowledge, information, and belief, and nothing material has been concealed therefrom.

Verified at Thrissur on this 16th day of April, 2026.



SIXTH RESPONDENT

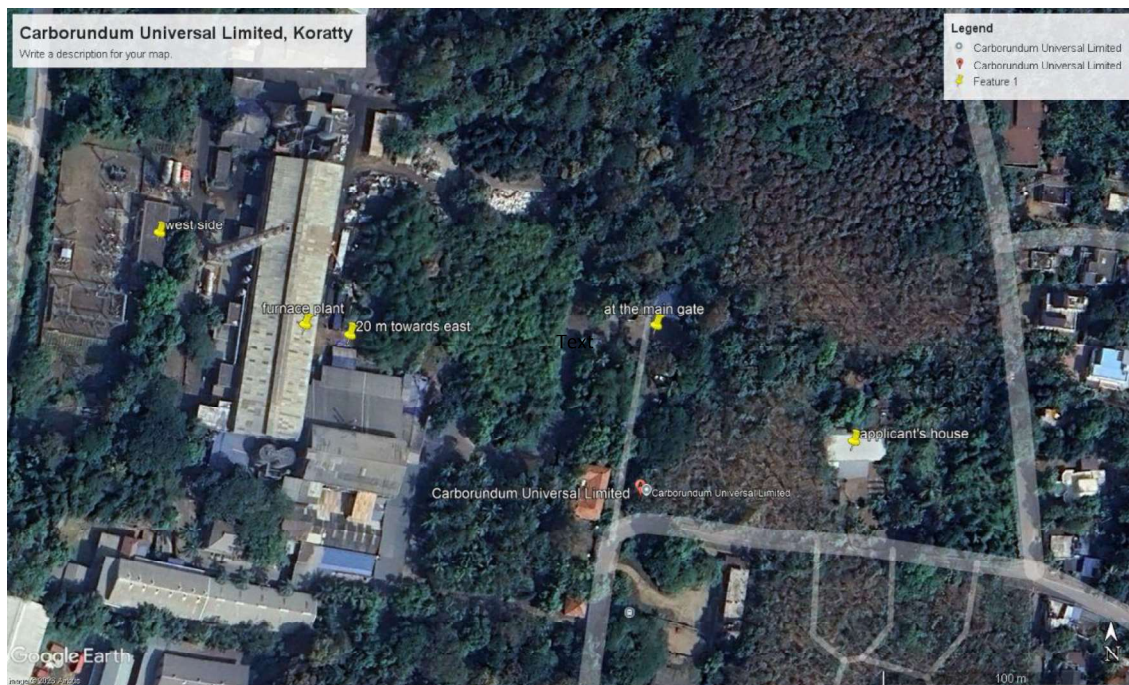
Authorized Signatory

Kerala State Pollution Control Board,

District office, Thrissur



SMITHA C. V.
Environmental Engineer
Kerala State Pollution Control Board
District Office, Thrissur



Annexure R6(a)

Telephone No: 0487 - 2374939

E-mail: kspcbtsr@gmail.com



കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്
 മലിനീകരണ നിയന്ത്രണ, മൂന്നാം നില, പരവട്ടാനി, ഒഴുക്കര പി.ഒ., തൃശ്ശൂർ-680655
KERALA STATE POLLUTION CONTROL BOARD
 Majestic Square, 3rd Floor, Paravattani, Ollukkara P.O., Thrissur-680655

PCB/TSR/IC/176/07

Date: 22.01.2026

Report of Ambient Air Quality Monitoring

To verify the ambient air quality in the vicinity of M/s. Carborundum Universal Ltd., Nalukettu, Koratty, Thrissur, and to evaluate potential air pollutants possibly attributable to the industry's operations, a continuous 48-hour ambient air quality monitoring exercise was conducted.

24 hr Average Ambient Air Quality Assessment (08.01.2026,10:45 AM – 09.01.2026,10:15 AM)

Parameters	Monitoring Locations				National Ambient Air Quality Standard (24hr Average)
	Inside the Industry	20M from Industry East side	East Side Outside Gate	West side above the Building	
Particulate Matter PM ₁₀ (µg/m ³)	***	83.33	53.66	73.33	100
Particulate Matter PM _{2.5} (µg/m ³)	***	70	36	55	60
Oxides of Nitrogen as NO _x (µg/m ³)	0.07	0.08	0.19	0.02	80
Sulphur Dioxide as SO ₂ (µg/m ³)	0.3	0.74	0.18	0.13	80
Hydrogen Sulphide (µg/m ³)	BDL	BDL	BDL	BDL	-
Carbon monoxide (mg/m ³) for 8hr Average	<2	***	***	***	2 (for 8hr average)

24 hr Average Ambient Air Quality Assessment (09.01.2026,10:45 AM – 10.01.2026,10:45 AM)

Parameters	Monitoring Locations				National Ambient Air Quality Standard (24hr Average)
	Inside the Industry	20M from Industry East side	East Side Outside Gate	West side Above the Building	
Particulate Matter PM ₁₀ (µg/m ³)	***	84.66	54.66	71.33	100
Particulate Matter PM _{2.5} (µg/m ³)	***	67	38	60	60
Oxides of Nitrogen as NO _x (µg/m ³)	0.08	0.12	0.13	0.12	80
Sulphur Dioxide as SO ₂ (µg/m ³)	1.38	1.93	0.54	1.04	80
Hydrogen Sulphide (µg/m ³)	BDL	BDL	BDL	BDL	--
Carbon monoxide (mg/m ³) for 8hr Average	<2	***	***	***	2 (for 8hr average)

*** Not Conducted



ENVIRONMENTAL ENGINEER

Telephone No: 0487 - 2374939

E-mail: kspcbtr@gmail.com



കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്
 മെജസ്റ്റിക് സ്ക്വയർ, മൂന്നാം തിര, പാവട്ടാതി, ഒല്ലൂക്കര പി.ഒ., തൃശ്ശൂർ-680655
KERALA STATE POLLUTION CONTROL BOARD
 Majestic Square, 3rd Floor, Paravattani, Ollukkara P.O., Thrissur-680655

PCB/DTR/IC/1081/08

Date: 22.01.2026

STACK MONITORING REPORT

Name and Address of the Unit : M/s. Carborundum Universal Ltd
 Nalukettu, Koratty, Thrissur-680308

Date of Sampling & Time : 09.01.2026, 15.00Hrs

Stack No : 1

Volume of Emission : 150189Nm³/hr

Concentration Load PM : 19.4mg/Nm³

Pollution Load PM : 69.9 Kg/Day

Sulphur dioxide as SO₂ : 165 mg/Nm³

Oxides of Nitrogen as NO_x : 29.6 mg/Nm³

Hydrogen Sulphide : <2 mg/Nm³

ENVIRONMENTAL ENGINEER

Telephone No: 0487 - 2374939

E-mail: kspcbtr@gmail.com



കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്
 മഹേശ്വരീ സ്ക്വയർ, മൂന്നാം നില, പാറവട്ടം, എറണാകുളം ജില്ല, തൃശ്ശൂർ-680655
KERALA STATE POLLUTION CONTROL BOARD
 Majestic Square, 3rd Floor, Paravattani, Ollukkara P.O., Thrissur-680655

PCB/DTR/IC/1081/08

Date: 22.01.2026

STACK MONITORING REPORT

Name and Address of the Unit	: M/s. Carborundum Universal Ltd Nalukettu, Koratty, Thrissur-680308
Date of Sampling & Time	: 09.01.2026, 11.45Hrs
Stack No	: 1
Volume of Emission	: 143256 Nm ³ /hr
Concentration Load PM	: 16.7mg/Nm ³
Pollution Load PM	: 57.4 Kg/Day
Sulphur dioxide as SO ₂	: 152 mg/Nm ³
Oxides of Nitrogen as NO _x	: 27.9 mg/Nm ³
Hydrogen Sulphide	: <2 mg/Nm ³

ENVIRONMENTAL ENGINEER



കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്
 മലിനീകരണ നിയന്ത്രണ ബോർഡ്, മൃതം തിരു, പാവട്ടാനി, മണ്ണൂർ പി.ഒ., തൃശ്ശൂർ-680655
KERALA STATE POLLUTION CONTROL BOARD
 Majestic Square, 3rd Floor, Paravattani, Ollukkara P.O., Thrissur-680655

PCB/DTR/IC/1081/08

Date: 22.01.2026

STACK MONITORING REPORT

Name and Address of the Unit	: M/s. Carborundum Universal Ltd Nalukettu, Koratty, Thrissur-680308
Date of Sampling & Time	: 08.01.2026, 15Hrs
Stack No	: 1
Volume of Emission	: 139142Nm ³ /hr
Concentration Load PM	: 11.2mg/Nm ³
Pollution Load PM	: 37.4 Kg/Day
Sulphur dioxide as SO ₂	: 55.0 mg/Nm ³
Oxides of Nitrogen as NO _x	: 23.1 mg/Nm ³
Hydrogen Sulphide	: <2 mg/Nm ³

ENVIRONMENTAL ENGINEER

Telephone No: 0487 - 2374939

E-mail: kspcbtr@gmail.com



കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്
 മനുഷ്യാർക്കിടെക്ടറൽ, മൂത്താതില, പാവട്ടാനി, ഒഴുക്കര പി.ഒ., തൃശ്ശൂർ-680655
KERALA STATE POLLUTION CONTROL BOARD
 Majestic Square, 3rd Floor, Paravattani, Ollukkara P.O., Thrissur-680655

PCB/DTR/IC/1081/08

Date: 22.01.2026

STACK MONITORING REPORT

Name and Address of the Unit	: M/s. Carborundum Universal Ltd Nalukettu, Koratty, Thrissur-680308
Date of Sampling & Time	: 08.01.2026, 12Hrs
Stack No	: 1
Volume of Emission	: 135599Nm ³ /hr
Concentration Load PM	: 9.62mg/Nm ³
Pollution Load PM	: 31.3 Kg/Day
Sulphur dioxide as SO ₂	: 60.3 mg/Nm ³
Oxides of Nitrogen as NO _x	: 18.5 mg/Nm ³
Hydrogen Sulphide	: <2 mg/Nm ³

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