

STACK EMISSION MONITORING DATA RECORDING SHEET

| | | | | | | | | | | | |
|---|---|---|------------------------------|----------------|------------------------|----------|----------|----------|----------|----------|-----------|
| 1. | Sample ID: | SA/2104/0021 | 2. | Instrument ID: | 1 | | | | | | |
| 3. | Date & Time of Sampling:25/04/21 | | | | | | | | | | |
| 4. | Stack Identity:6 | | | | | | | | | | |
| 5. | Stack attached to:4 | | | | | | | | | | |
| 6. | Stack height (m):3 | | | | | | | | | | |
| 7. | Stack diameter/Duct Dimensions at sampling point (m):4 | | | | | | | | | | |
| 8. | Height of port hole from ground level (m ²):4 | | | | | | | | | | |
| 9. | Are 8D and 2D Criteria met: Yes / No:True | | | | | | | | | | |
| 10. | Material of Construction:3 | | | | | | | | | | |
| 11. | Stack shape at top:3 | | | | | | | | | | |
| 12. | Fuel used: i) Type:3 | ii) Consumption: 3 kg/d or Ud | | | | | | | | | |
| 13. | Stack Area (A) (m ²):3 | | | | | | | | | | |
| 14. | Whether Sampling port and platform exists? Yes / No:True | | | | | | | | | | |
| 15. | Whether Air pollution control equipment exists? Yes /No (Specify)True | | | | | | | | | | |
| 16. | Barometric Pressure (Ba): 5.000 mm Hg | | | | | | | | | | |
| 17. | Fuel Gas composition: | CO ₂ %:2.000 | O ₂ %:2.000 | CO %:2.000 | N ₂ %:2.000 | | | | | | |
| 18. | Moisture Content (M) = 4.000 % | | ii) Bwo: (M /100) =4.0000 | | | | | | | | |
| 19. | Duration (h) / day of run of boiler/ process:3.00 | | | | | | | | | | |
| 20. | Ambient Temperature : 4.00 | | °C + 273 = 4.00 | | °K | | | | | | |
| 21. | Stack Temperature(Ts) : 4.00 | | °C + 273 = 3.00 | | °K | | | | | | |
| 22. | Velocity of Stack Gas (V): 5.00 m/s | | Pitot Tube factor (K):5.0000 | | | | | | | | |
| | C = K x 0.2295 =5.00 | | | | | | | | | | |
| Details | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| a) Traverse Point distance from the port, cm | | | | | | | | | | | |
| b) Differential Pressure (ΔP) mmH ₂ O | | | | | | | | | | | |
| c) Static Pressure (Ps)mmHg | | Ps= 5.0000 mmH ₂ O/13.6 = mmHg | | | | | | | | | |
| d) Absolute Stack Pressure (PA) | | PA (Ba ± Ps) = 6.0000 mmHg | | | | | | | | | |
| e) Velocity V in m/s V=C√AP x Ts. °K | | 4 | | | | | | | | | |
| f) Flue Gas Quantity (Dry) Nm ³ /h Q = A x V x 3600X(298/Ts) X(PA/760) X(1-Bwo) | | 5.0000 | | | | | | | | | |

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| Prepared By: TM | Issued By: QM |

Note =* Physical Details of Sack Provided by Customer

19. Sampling Rate for Isokinetic conditions:

| | | | | | | | | | | | |
|---|---------|--------|--------|--|-------|--|--------|--|---------|--|--------|
| a. Nozzle Constant: Area of Nozzle(mz) X 60 X 1000 = 5.0000 | | | | | | | | | | | |
| b. Sampling Flow Rate (LPM) =Velocity x Nozzle constant x Ta/Ts x PA/ Ba-Pv | | 3.0000 | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| c. Sampling duration in Minutes | | 4.0000 | | | | | | | | | |
| d. Vacuum PV in mm Hg | Initial | 4.0000 | | | | | | | | | |
| | Final | 5.0000 | | | | | | | | | |
| | Average | 5.0000 | | | | | | | | | |
| e. Sampling gas Temp(Tg) °K | Initial | | 5.0000 | | Final | | 4.0000 | | Average | | 5.0000 |
| Thimble No:-5 | | | | | | | | | | | |

20. Total gas passed:(Flow Rate) x Duration= 5.0000 Liters

OR

Dry Gas Meter Reading: **Final** 5.0000 **Initial** 5.0000 **Diff .** 55.0000 m3

21. Gaseous Sampling Data:

| Parameter | Flow Rate (LPM) (R) | Sampling time in minutes (T) | Gas Temp (°K)(Tg) | Barometric Pressure mm Hg (Ba) | Dry gas meter Reading (m³) | | | Bottle No. | Absorbing solution used | | | Preservation Done Parameter (If Any) |
|-----------------------------------|---------------------|------------------------------|-------------------|--------------------------------|----------------------------|--------|--------|------------|-------------------------|-------|-----------|--------------------------------------|
| | | | | | Initial | Final | Total | | Solution | Conc. | Vol. (ml) | |
| Carbon Dioxide (CO ₂) | 5.000 | 4 | 5.000 | 4.000 | 5.0000 | 4.0000 | 5.0000 | 1 | 4 | 5.00 | 4.00 | 5 |

$$Vs \text{ (in liters at STP)} = R \times T \times (Ba/760) \times (298/ Tg) = y$$

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22. Sampling Data for NOx

$$V_{sc} = (T_{std}/P_{std})(V_f - V_a) (P_f/T_f - P_i/T_i)$$

Where,

Vs = 5 (Volume of flask & vdlve in ml)

Va = 5 (Volume of absorbing solution, 25 ml)

Pf = 4 (Final absolute pressure of flask, mm Hg)

Pi = 4 (Initial absolute pressure of flask, mm Hg)

Pstd = 4 (Standard absolute pressure, 760 mm Hg(29.92 inch of Hg))

Tf = 4 (Final absolute temperature of flask, oK)

Ti = 4 (Initial absolute temperature of flask, 0K)

Tstd = 4 (Standard absolute temperature, 298.15 OK)

Vsc = Sample Volume at standard condition (dry basis), ml

$$V_{sc} = (\text{----}) (\text{ - }) (\text{ - - - }) = 3.0000\text{ml}$$

$$= \frac{\text{---}}{1000} \text{ ml}$$

$$= \text{---} \text{ L}$$

Preservation Done (If Any) :

Sample received in lab by: **Sign:** _____ **Date:** 24/04/21**Probable date of report:** 28/04/21**Sampling done by:** sandeep p **Sign:** _____**Name and Address of Customer:** MSEBMumbai
Nagpur**Sample ID:** SA/2104/0021

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