



Stack Air Emission Report of Boiler-1:

**INDESORE SWEATER LTD.**



**Conducted By**

**GREENTECH TESTING COMPANY LTD.**

**Corporate Office:**

House: 4 Sobhanbag, Mohammadia Super  
Market, Dhanmondi-27, Dhaka-1207

Contact: +8801727-310675, 01795-333332



Date of Testing: January 28, 2019

Date of Report Submitting: February 2, 2019



# GREENTECH TESTING COMPANY

Environmental Testing, Inspection, Assessment, Calibration  
& Consultancy Organisation.



Certificate Number: GTCL/VER/2019/215

## Stack Air Emission Report

Issued By	: Greentech Testing Company Ltd. House No: 4 Sobhanbag, 123 Mohammadia Super Market (2 <sup>nd</sup> Floor), Mirpur Road, Dhaka-1207. Contact Number: 01795-333332 E-mail: <a href="mailto:ceo@gtclbangladesh.com">ceo@gtclbangladesh.com</a>
Date of Issue	: February 2, 2019
Certificate Number	: Certificate Number: GTCL/VER/2019/215

Customer	: <b>INDESORE SWEATER LTD.</b> Deger Chala, National University, Gazipur Sadar, Gazipur-1704, Bangladesh.
Description	: Stack Air Emission Assessment of Boiler. (Included Parameter: 1. SPM- Suspended Particulate Matter, 2. NOx- Oxides of Nitrogen, 3. SOx- Sulfur Dioxide, 4. CO- Carbon Mono-oxide, 5. CO <sub>2</sub> - Carbon Di-oxide, 6. O <sub>2</sub> - Oxygen,)
Date of Assessment	: January 28, 2019



Prepared By:

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Environmental Specialist

Greentech Testing Company Ltd.(GTCL)



Approved By:

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Environmental Specialist

Head of- Quality Assurance

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## Stack Air Emission Report

### Description of Sampling:

Name of Combustion Unit: Boiler (Natural Gas Boiler)

Key Information of Boiler	
Location of Boiler	Ground Floor, Boiler Room
Capacity	1,000 Kg / Per Hour
Boiler Type	Natural Gas Boiler
Brand Name	Fulton
Boiler Registration Number	BA:BO: 5704
Test Pressure	80 PSI
Max Working pressure	90 PSI
Frequency	50 Hz
Manufacturer Year	2008
Origin	USA
Relevant Weather Condition	
Temperature of Boiler Room	29.5°C
Humidity of Boiler Room	48% RH
Ambient Weather	Normal

Sampling has been done by automatic sampler connected with the analyzer. During the sampling procedure, all instruction stated in the Greentech Testing Company Ltd. work instruction GT-101 has followed. The machine probe has set to the center point of the exhaust. Sampling has been conducted for specific time intervals mentioned in the work instruction and recorded in a field data collection sheet.

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## Description of Analysis

SN	Sample Description	Name of the Parameters					
		SPM	NOx	SOx	CO	CO <sub>2</sub>	O <sub>2</sub>
01	Method of Analysis	Gravimetric	EPA Method (7-1)	Hydrogen Per-Oxide	ORSAT Method	ORSAT Method	ORSAT Method
02	Emission Source from Gas Boiler Exhaust (Capacity-1,000 Kg)	42	55	163	285	4.6%	13.3%
03	Unit	mg/Nm <sup>3</sup>	mg/Nm <sup>3</sup>	mg/Nm <sup>3</sup>	mg/Nm <sup>3</sup>	V/v	%
04	Duration (Minutes)	30	30	30	30	30	30
05	Bangladesh (DoE) Standard	100 (Gas) 300 (Liquid)	150 (Gas) 300 (Liquid)	NYS	NYS	NYS	NYS
06	IFC / World Bank Standard	NYS	320 (Gas) 460 (Liquid)	2000	NYS	NYS	NYS
07	Remark	Excellent	Good	Good	Good	Good	Good

(Note: these above-mentioned parameters are GHG substance)

Abbreviation: - 1. SPM- Suspended Particulate Matter, 2. NOx- Oxides of Nitrogen, 3. SOx- Sulfur Dioxide, 4. CO- Carbon Mono-oxide, 5. CO<sub>2</sub>- Carbon Di-oxide, 6. O<sub>2</sub>- Oxygen, 7. NYF- Not Yet Set-Not Found. 8. V/v- Volume / volume, 9. DoE – Department of Environment. 10. N/A- Not Applicable.

Pollutant Quantity Calculation: Measured Emission Concentration (mg/nm<sup>3</sup>) × Measured Air Flow (nm<sup>3</sup>/H) × Operating time (Hour/Year) = Mass pollutant Discharge (Kg/Year):

Pollutant Quantity Calculation	SPM	NOx	SOx
Measured Emission Concentration (Ng/nm <sup>3</sup> ):	42	55	163
Measured Air Flow (Nm <sup>3</sup> /Hour):	1164		
Operating time (Hour/Year):	1755		
Total Air Emissions Discharge Inventory (Kg/Year):	85.8	112.36	332.98

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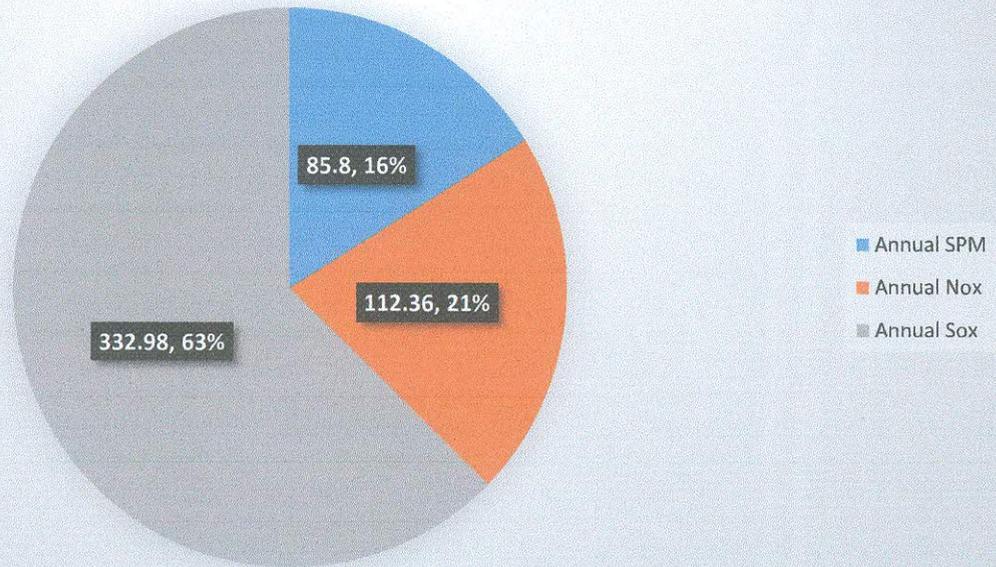
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### Graph of Annual Boiler -1: Air Emission of Inventory



**Comment:** Boiler of INDESORE SWEATER LTD. which is run 100% by Gas. Stack/Point source emission from the Boiler has been analyzed and to evaluate SPM, NOx, SOx, CO, CO2, & O2 from the point source emission. It was observed that the levels of SPM, NOx, SOx, CO, CO2, & O2 from emission were within the standard limits as per Bangladesh and IFC / World Bank Standard. Black smoke was not found in the point sources of INDESORE SWEATER LTD.



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Photograph of the Boiler-1:

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