

## Annual Report Narrative Outline

**Department: Research, Development and Extension Department**

**Division: Factory Services and Research Division - Visayas**

**Year: 2022**

**A. PROGRAM/PROJECT: Environmental Monitoring of Visayas Mills**  
**Approved Budget: Php3,827,376.00**

**I. Highlights of Accomplishment**

- 1) The SRA-SAGE Team – Visayas, having been granted accreditation by the DENR-EMB in 2022 as a Third-Party Source Emission Testing Firm for particulate matter, carbon monoxide, nitrogen oxide and sulfur dioxide emissions, continuously provided environmental monitoring services to sugar milling industry stakeholders. In line with SRA's vision, said accreditation is an affirmation that SRA's human resource is technically **competent** in providing environmental monitoring services to sugar milling industry stakeholders thereby assisting them in their **commitment** to alleviate environmental pollution and to be compliant with environmental rules and regulations.
- 2) Flue gas emissions of sugar mills, other sugar industry-related manufacturing firms and some companies were tested for Particulate Matter (PM), Carbon Monoxide (CO), Nitrogen Oxide (NOx) and Sulfur Dioxide (SOx). Ambient Air (Particulate Matter as PM10 and Total Suspended Particulates) monitoring were likewise conducted. The total number of sampling services including re-sampling activities rendered to these firms are forty-two (42), with details, as follows:
  - a) Sugar mills/bio-ethanol plants and other sugar-industry affiliated firms served.
    - Kooll Company, Inc.
    - North Negros Biopower
    - South Negros Biopower
    - Victorias Milling Corporation
    - First Farmers Holding Corporation
    - BISCOR, Inc.
    - URC – La Carlota
    - San Carlos Bioenergy, Inc.
    - URC – SONEDCO
    - Hawaiian-Philippine Company
    - Option-MPC
    - Sagay Central, Inc.
    - Lopez Sugar Corporation
    - Upward Agro Industrial Corporation
    - Sunfresh Agriventures
    - San Carlos Biopower
    - Central Azucarera de San Antonio
    - Capiz Sugar Central
    - Murcia Water District

- b) Twenty-eight (28) boiler and eight (8) generator smokestacks were tested for PM, CO, NO<sub>x</sub> and SO<sub>x</sub> emissions.
- c) One hundred fifty-six (156) PM, one hundred eleven (111) CO, one hundred seventeen (117) NO<sub>x</sub>, fifteen (15) SO<sub>x</sub> and sixty-eight (68) PM<sub>10</sub> and sixteen (16) TSP samples were collected.
- 3) Laboratory analysis of the above-stated samples were conducted at SRA's environmental laboratories. The results were issued in sixty-eight (68) Emission Test Reports and Ambient Air Monitoring Reports and thirty-three (33) Environmental Monitoring Book Reports.
- 4) Twenty-six (26) wastewater samples were obtained for BOD<sub>5</sub> and TSS analyses.

## **II. Best Practices**

### **1) Safety**

Taking into consideration the hazardous environment in sugar milling industries, the safety of the team is ensured by providing appropriate PPEs (for dust, heat, noise and heights) and by the conduct of inspection of the sampling site prior the sampling schedule. These safety practices guarantee that the services being provided are not hampered.

### **2) Equipment Calibration and Preventive Maintenance**


To ensure the accuracy, reliability and validity of the sampling results, all monitoring equipment used are constantly being calibrated and properly maintained on a regular basis.


### **3) Cloud Storage**

The FSRD-Visayas maintains a cloud drive shared by all the staff. This facilitates the real-time uploading of all FSRD files that can be accessed, retrieved, edited anytime and anywhere thereby facilitating timely report preparation and submission whenever required by management despite the constant official travels of the SRA-SAGE Visayas Team.

### III. Photo Documentation

#### Accreditation

 Republic of the Philippines  
Department of Environment and Natural Resources  
**ENVIRONMENTAL MANAGEMENT BUREAU**  
Visayas Avenue, Diliman, Quezon City

 SAT No. 2022 – 139

**CERTIFICATE OF ACCREDITATION**

Pursuant to DENR Administrative Order No. 26 Series of 2013 of the Department of Environment and Natural Resources having substantially met all the requirements prescribed therein,

**SUGAR REGULATORY ADMINISTRATION – SPECIAL ACTION GROUP FOR THE ENVIRONMENT (SRA – SAGE)**

Sugar Center Bldg., North Ave., Diliman, Quezon City

is hereby duly accredited as

**SOURCE EMISSION TESTING FIRM**

As such, the following are authorized as:

**QA/QC Manager**  
**Maria Lucia C. Sanchez**

**Team Leader**  
**Gina D. Cahilig**


This certification shall allow the above firm and personnel to conduct stack testing limited to the following methods and parameters:

1. US-EPA Method 1 to 5 – PM
2. US-EPA Method 6/8 – SO<sub>2</sub>
3. US-EPA Method 7 – NO<sub>x</sub>
4. US-EPA Method 10 – CO

Granted this November 2, 2022, and valid until November 2, 2025

**ENGR. WILLIAM P. CUÑADO**  
Director

Digitally signed by Cuñado William Purgatorio  
DN: CN=Cuñado William Purgatorio,  
SERIALNUMBER=001006000462A,  
O=Environmental Management  
Bureau-denr, O=Department of the  
Environment and Natural Resources,

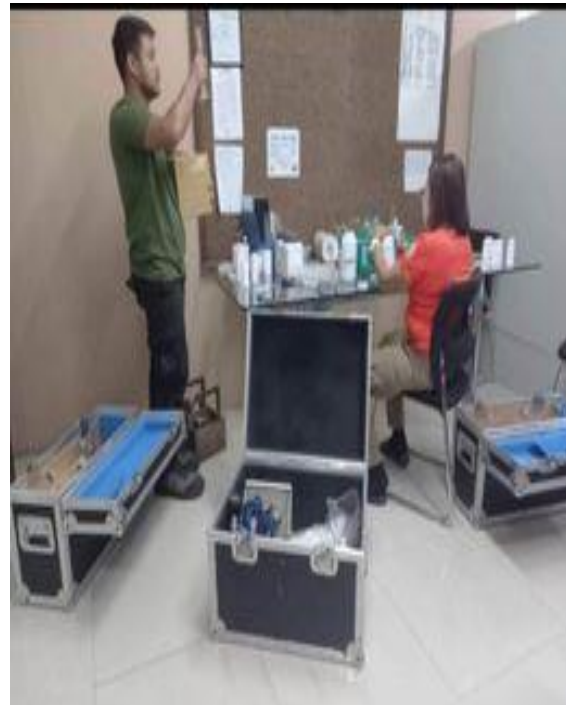
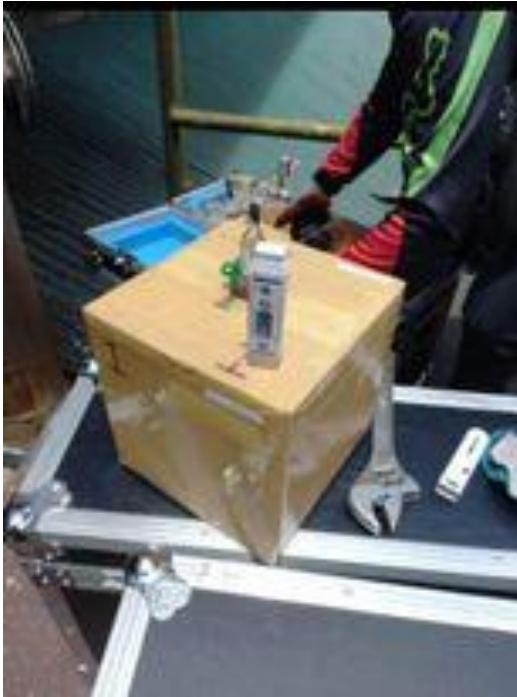


## Source Emission Monitoring

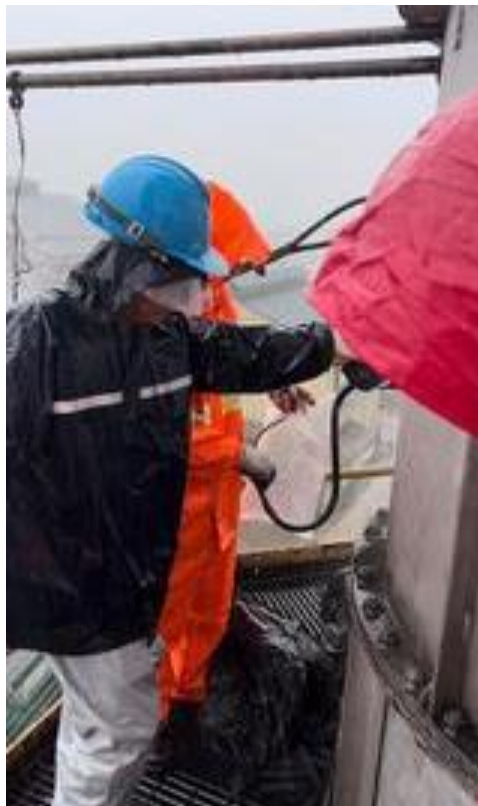


**Particulate Matter Testing of Boiler Smokestacks**





**Nitrogen Oxides as  $\text{NO}_2$  and Carbon Monoxide Testing of Generator Sets**



**Carbon Monoxide Testing of Boiler Smokestacks**



## **Ambient Air Monitoring**



**Sampling for Particulates as PM10**



**Sampling for Total Suspended Particulates**

#### **IV. Sustainability Plan of the PAP**

As a DENR-EMB accredited third-party source emission testing firm, SRA-SAGE-Visayas' Test Results are used by the Visayas mills in their yearly Permit-to-Operate applications. Therefore, to provide unhampered environmental monitoring services to sugar industry stakeholders, the following, should be given priority:

- Assignment of permanent FSRD positions in Visayas taking into consideration that there are more sugar mills here in Visayas as compared in Luzon-Mindanao
- SRA-SAGE-Visayas' DENR-EMB Accreditation through compliance with the submission of requirements that include the annual and quarterly monitoring reports and test plans, strict adherence to the standard operating procedures and continued education on air quality source emission testing.
- Provision of sufficient budget for upgrading of equipment, repair and maintenance services and supplies.

#### **B. PROGRAM/PROJECT: Other Extension Services** **Approved Budget: Php0.00**

##### **I. Highlights of Accomplishment**

As part of SRA's commitment to the diverse stakeholders of the sugar industry, extension services were provided, as follows:

- 1) A survey of Muscovado Mills in Visayas specifically in the provinces of Negros Occidental, Negros Oriental, Iloilo, Antique, Capiz, and Cebu was conducted to update the existing database on muscovado mills. This project was implemented during the off-milling season in response to the inquiries made by interested entities that include a block farm beneficiary, a government agency, and private individuals.

Muscovado production, a related industry, provides income to some of the small sugarcane farmers in Visayas. A total of 123 muscovado mills were surveyed. From the gathered information such as the market, the prices, production, processes, sugarcane farming hectareage, and most importantly issues/concerns, an extension-service program can be provided to assist the producers to improve their productivity and profitability.

- 2) Test weight rentals were facilitated for various firms, namely, Distilleria Bago, Inc.; Philippine Bulk Corporation; Hawaiian-Philippine Co.; Sagay Central, Inc.; and OPTION-MPC
- 3) Attended to the request of the DENR-EMB to conduct a joint sampling of source emission at the Victorias Milling Company.
- 4) Attended to the request of Victorias Milling Company to monitor the carbon dioxide and oxygen contents of the flue gas emitted by the Thermax Boiler.

##### **II. Best Practices**

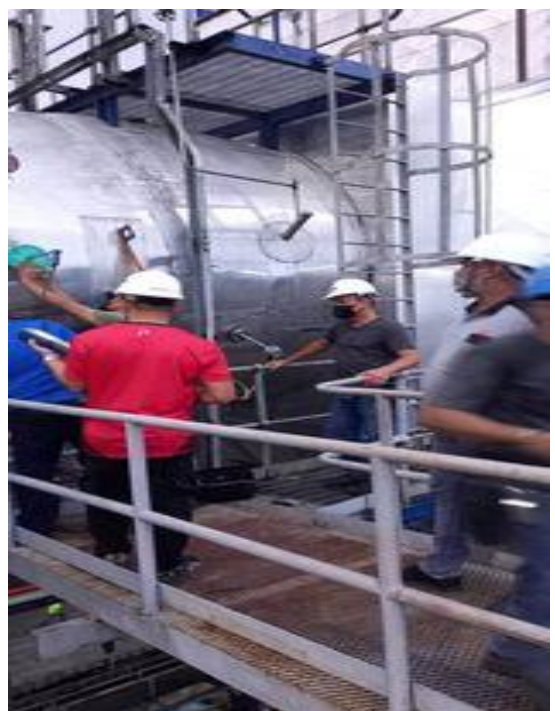
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##### **III. Photo Documentation**





### **Muscovado Survey**

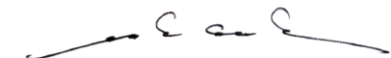


### **CO<sub>2</sub>/O<sub>2</sub> monitoring at VMC**

## **IV. Sustainability Plan of the PAP**

- Revisiting of muscovado mills and provide assistance through the grant of sugarcane HYVs
- Maintenance/calibration of the test weights
- Provision of budget for travel expenses
- Maintenance of existing test instruments
- Purchase of new test instruments

Prepared by:



**MARIA LUCIA C. SANCHEZ**  
Senior Science Research Specialist  
FSRD - Visayas

Reviewed and approved by:



**HELEN B. LOBATON**  
Manager III  
RD&E Dept. - Visayas