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Date:
24 May 2021

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Dear Mr. Mahlangu

ARNOT POWER STATION'S ANNUAL EMISSIONS REPORT: 2020/2021 FINANCIAL YEAR

1. EXECUTIVE SUMMARY.

This serves as the Annual report required in terms of Section 7.6 in Arnot Power Station's Atmospheric Emission License. The emissions are for Eskom Arnot Power Station's 2020/2021 financial year, which is from 1 April 2020 to 31 March 2021. Verified measured emissions of particulates, SO₂ and NO_x (as NO₂) and calculated greenhouse gas emissions are included. Conditions 7.2.1 requires the License Holder to report its operational performance against the conditions of the license on a regular basis and at least on a bi-annual basis, to the licensing authority

This annual report will cover the following: Daily particulate emissions, Gaseous emissions (NO_x and Sox) in mg/Nm³ for 2020/2021 financial year.

1.1 Pollutants Emissions Trends for 2020-2021

| Month | Arnot PM (tons) | Arnot SO ₂ (tons) | Arnot NO ₂ (tons) | Arnot CO ₂ (tons) | GWh (COAL FIRED) | N ₂ O tons (Coal Fired) |
|--------------|-----------------|------------------------------|------------------------------|------------------------------|------------------|------------------------------------|
| April 20 | 186 | 5220 | 3946 | 954275 | 751 | 13 |
| May 20 | 229 | 5885 | 4705 | 1134025 | 965 | 16 |
| June 20 | 275 | 5416 | 4514 | 1099385 | 950 | 16 |
| July 20 | 222 | 5247 | 4320 | 1052230 | 885 | 15 |
| August 20 | 245 | 6233 | 4642 | 1141278 | 973 | 16 |
| September 20 | 108 | 4413 | 3878 | 940899 | 771 | 13 |
| October 20 | 178 | 4550 | 3899 | 937071 | 782 | 13 |
| November 20 | 170 | 4688 | 3813 | 922140 | 787 | 13 |
| December 20 | 224 | 4877 | 3988 | 956773 | 789 | 14 |
| January 21 | 271 | 5681 | 4642 | 1115285 | 923 | 16 |
| February 21 | 215 | 3860 | 3461 | 826019 | 693 | 12 |
| March 21 | 167 | 5260 | 4339 | 1041597 | 880 | 15 |
| Total | 2490 | 61330 | 50147 | 12120977 | 10149 | 172 |

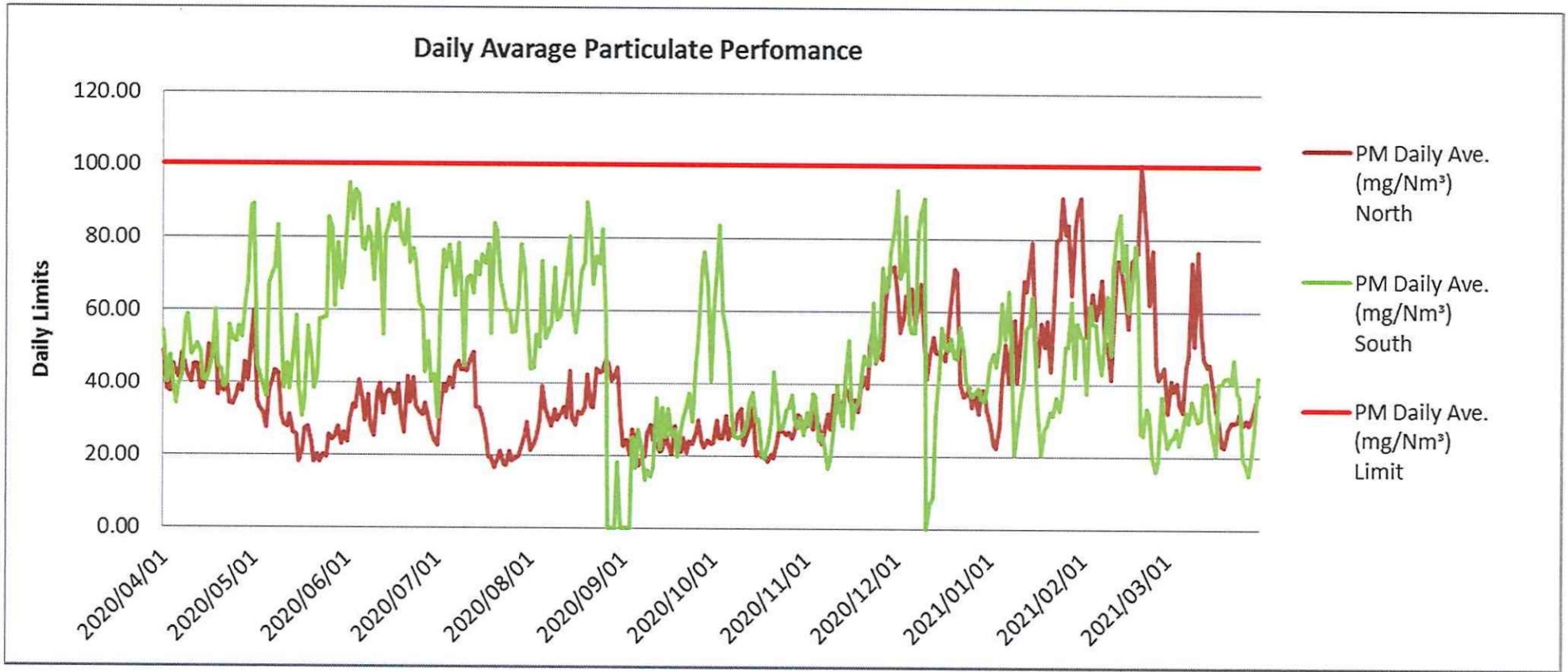


Figure 1. PM (Daily Average) 01 April 2020 to 30 March 2021

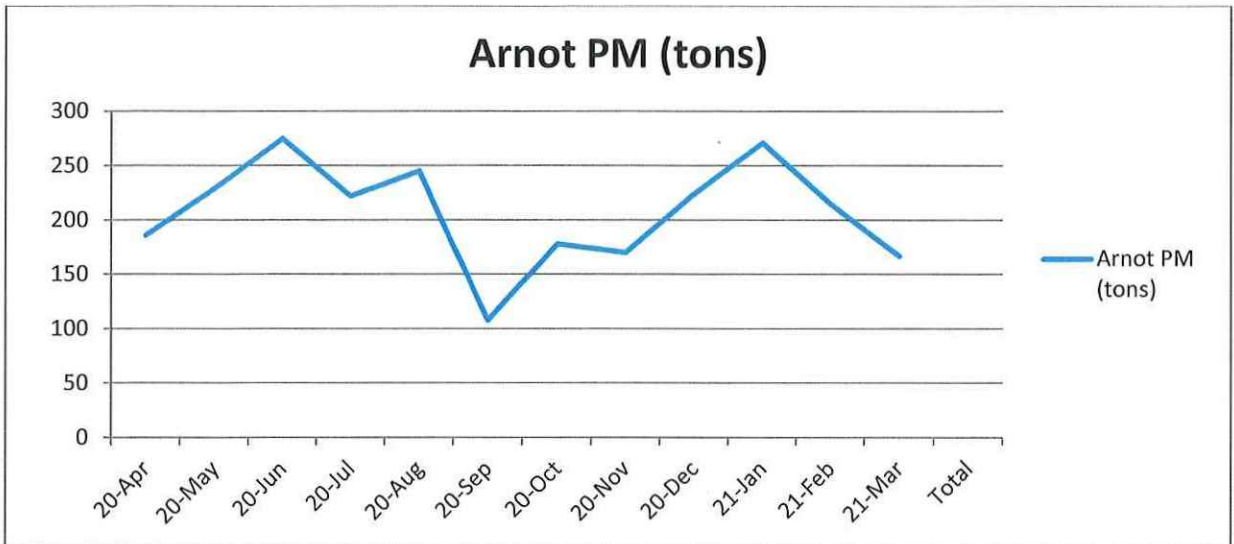


Figure 2 PM (tons) 01 April 2020- 31 March 2021

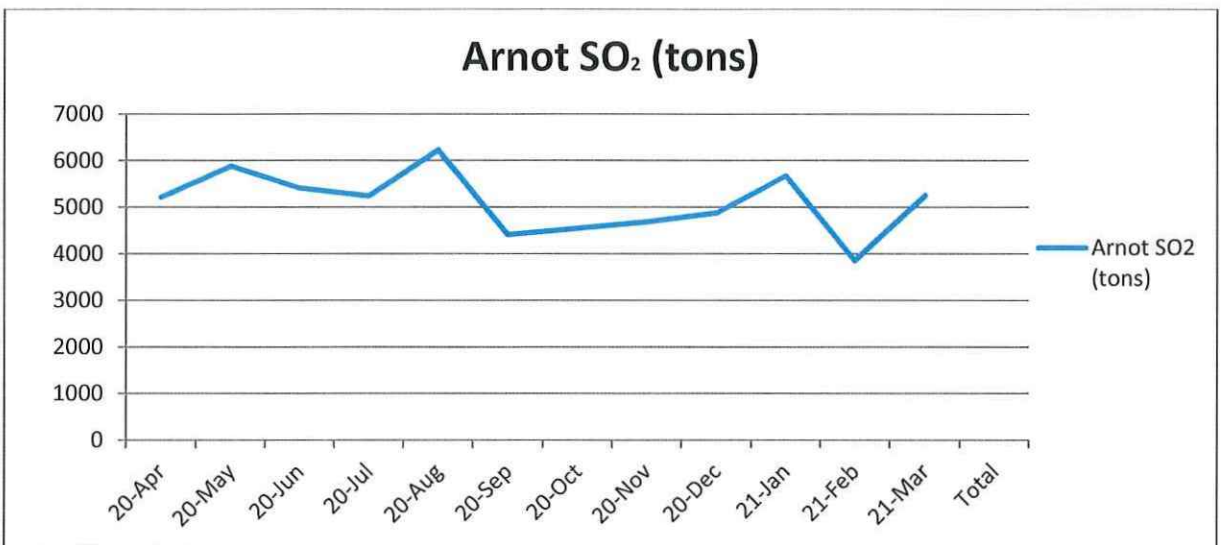


Figure 3. SO2 (tons) 01 April 2020- 31 March 2021

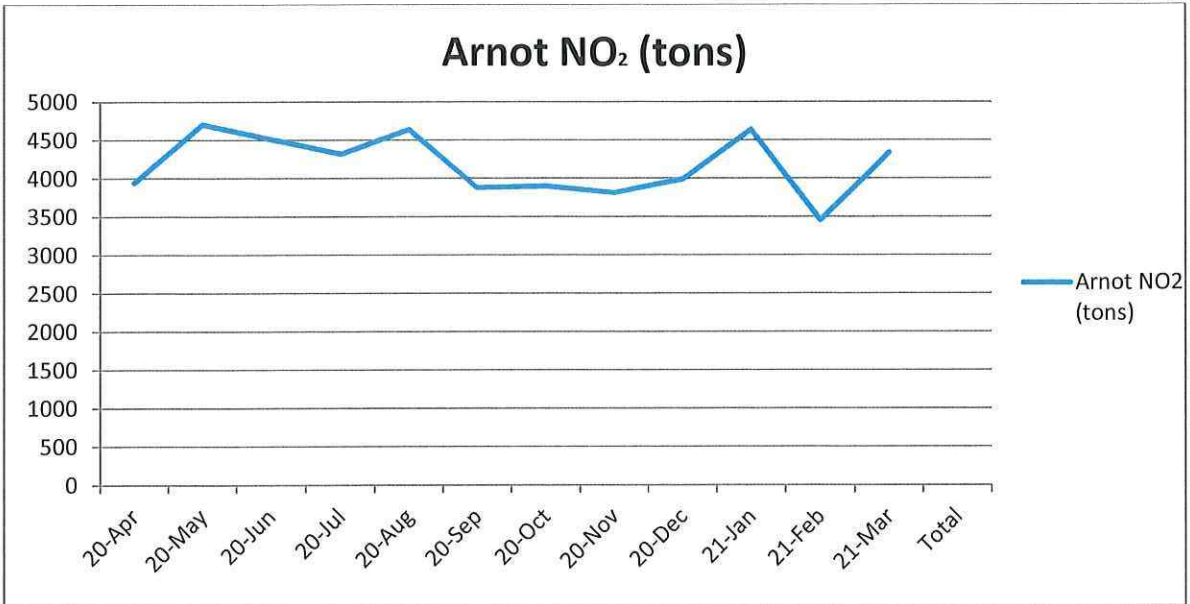


Figure 4. NO₂ (tons) 01 April 2020- 31 March 2021

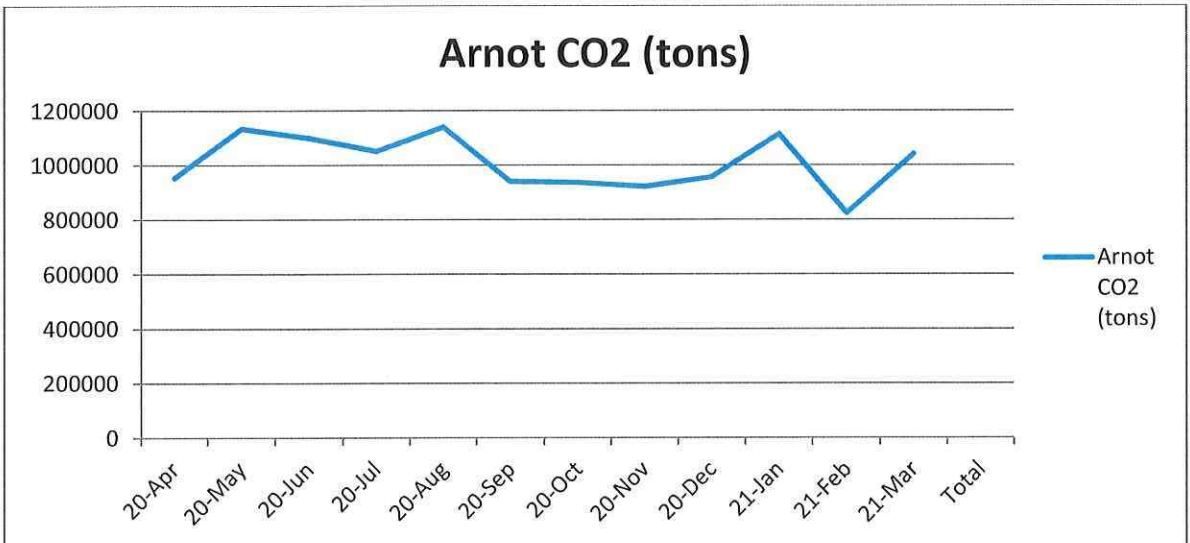


Figure 5 CO₂ (tons) April 2020- 31 March 2021

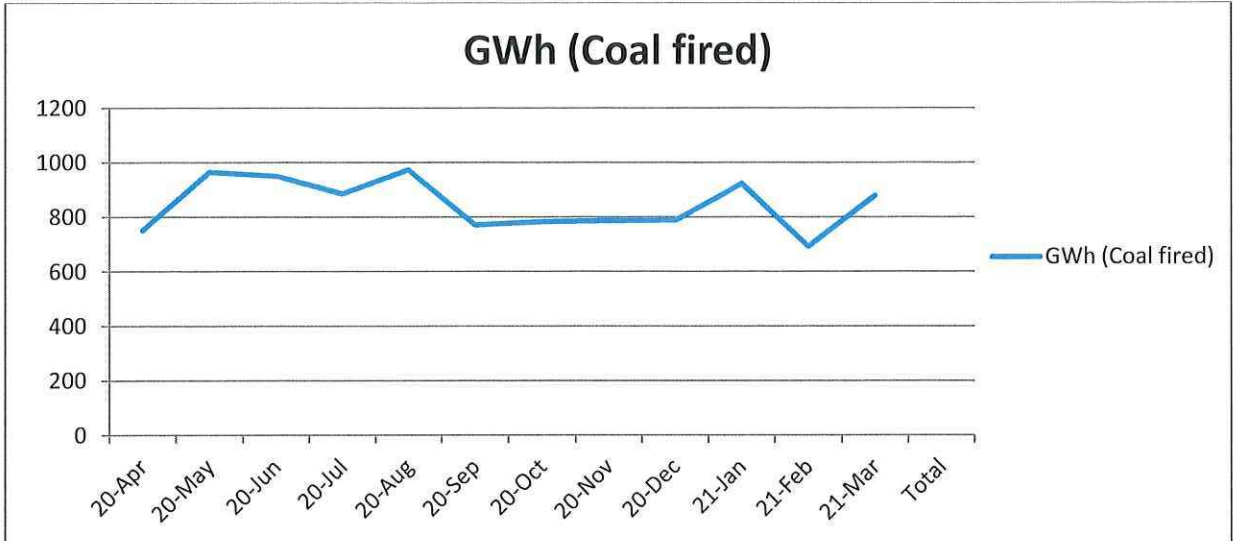


Figure 6 GWh (tons) 01 April 2020- 31 March 2021

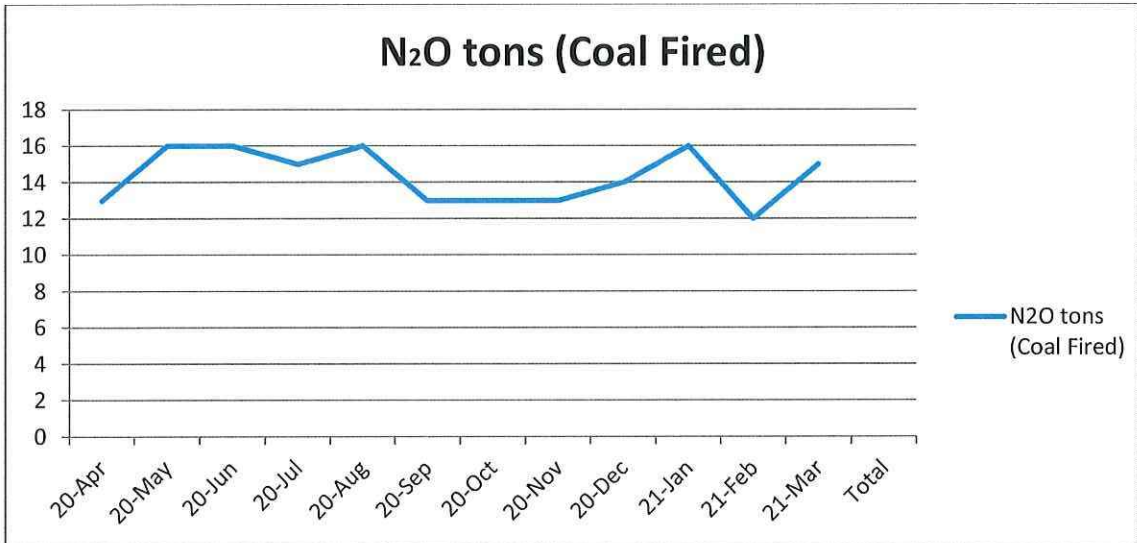


Figure 7. Monthly N₂O Emissions in tons from Arnot Power Station 2020-2021

Compliance Audit Report(s):

Internal Air Quality Compliance Assurance Review on the 17 February 2021

Major upgrades projects:

No major projects related to the atmospheric emissions license were done for the financial year

Greenhouse gas emissions:

Please refer to table figure 3-7

Gaseous and Particulate Monitoring Data availability

The Table below indicates the availability of the PM and Gaseous monitors on both the south and north stack for each month between 01 April 2020 and 31 March 2021

Table 1 Monitoring System Availability (%)

| | North Stack PM | South Stack PM | North Stack SO2 | South Stack SO | North Stack NO | South Stack SO |
|--------|----------------|----------------|-----------------|----------------|----------------|----------------|
| Apr-20 | 100 | 100 | 99.7 | 99.8 | 98.5 | 99.8 |
| May-20 | 100 | 100 | 100 | 94.6 | 100 | 92.6 |
| Jun-20 | 100 | 100 | 99.7 | 100 | 94.6 | 93.8 |
| Jul-20 | 99.9 | 99.2 | 99.3 | 94.6 | 93.8 | 100 |
| Aug-20 | 100 | 100 | 100 | 82.3 | 87.4 | 100 |
| Sep-20 | 99.8 | 98.3 | 75.5 | 99.6 | 99.6 | 91.8 |
| Oct-20 | 98.8 | 99.6 | 76.8 | 98.0 | 99.0 | 89.0 |
| Sep-20 | 100 | 100 | 99.7 | 99.6 | 78.9 | 78.9 |
| Nov-20 | 100 | 99.9 | 37.6 | 38.2 | 35.8 | 94.2 |
| Dec-20 | 100 | 100 | - | 99.8 | - | 99.7 |
| Jan-21 | 100 | 100 | 36.9 | 100 | 36.9 | 100 |
| Feb-21 | 100 | 100 | 36.9 | 100 | 36.9 | 100 |
| Mar-21 | 100 | 100 | 100 | 100 | 100 | 100 |
| Total | 99 | 99 | 80 | 92 | 82 | 95 |

- For instances where gaseous monitors were performing below 80%, it was due to the technical issues and averaging was used. It must be noted that for the month of December, as of the 13th, the monitor was reading 0 due to technical problems experienced, however the average from the previous month of January was used. On the 05th March 2021 the monitor was reinstated and data deemed reliable and accurate with 100% monitors availability. Communication with the above technical problems experienced submitted to the Air Quality office on the 04 January 2021.

Complaints Register

Table 2 Complaints for 01 April 2020- 31 March 2021

There were no emissions related complaints registered for the past financial year.

| Source Code/ Name | Date complaint Received | Root Cause Analysis | Calculation of Impacts/ emissions associated with the incident | Dispersion modeling of pollutants where applicable | Measures implemented to prevent reoccurrence | Date by which measure will be implemented |
|--|-------------------------|---------------------|--|--|--|---|
| No Emissions related complaints received from April 2020- March 2021 | | | | | | |

Most recent correlation/ spot tests

The most recent correlation and verification tests were conducted on 12th – 17th December 2019 for the North stack and for 25th – 30th March 2021 South stack

NAIES

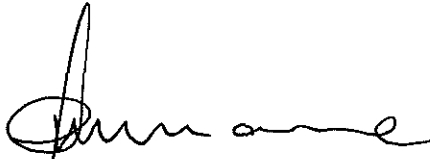
Arnot Power Station has submitted its annual NAIES report on the system for the 2021 reporting period in March 2021

General

The remainder of the information demonstrating compliance with the emission license conditions is supplied in the monthly emission reports sent to the Air Quality office

Hoping the above will meet your satisfaction

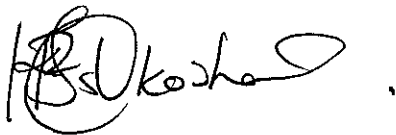
Compile by



Lawrence Machebe

ENVIRONMENTAL OFFICER: ARNOT

Verified By



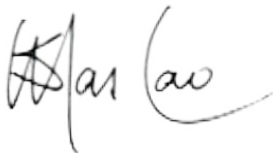
Rofhiwa Tshikovha
SENIOR ENVIRONMENTAL ADVISORT: ARNOT

Approve By



Mariam Joseph
ENVIRONMENTAL MANAGER

Yours sincerely



S Mashao
ACTING GENERAL MANAGER: ARNOT