REPORT ON BACKGROUND DUST DEPOSITION MONITORING FOR CAMDEN POWER STATION

02 July 2013 – 24 September 2013

**1. OBJECTIVE OF THE SURVEY**:

Paramount consultants CC was requested by Camden Power Station to conduct a dust deposition monitoring programme within the perimeters of the operations, in order to obtain background environmental data as part of an ongoing environmental impact assessment programme.

**2. STUDY METHODOLOGY**:

**2.1 Dust deposition**:

# In order to cover the potentially affected areas 12 strategically placed static dust precipitation samplers were deployed. The locations of the samplers are indicated in Table no.1 and on the aerial photo attached.

**2.2 Weather data and temperatures:**

Wind speed,direction and temperatures for the survey period was obtained from a Oregon Scientific Professional Weather Centre, Model WM 200 with data logger, erected on site at co-ordinates S 26° 37° - E 30° 5° - (at Tsalanang Contractor’s Office. )

**2.3 Analysis of dust:**

Samples were submitted to a SANAS Accredited Laboratory for elemental analysis. Composite samples coinciding with the four main directions from the station were analyzed. Dust precipitation concentrations were calculated from data obtained from weighing the collected dust on a Mettler Toledo calibrated five decimal correct electronic balance. (Please note: Results to follow as soon as received form laboratory).

**3.** **RESULTS**

**3.1 Dust deposition concentrations:**

Average dust deposition rates for the sampling period are reflected in Table no. 1.

**3.2 Wind speed and direction:**

The prevailing wind direction for the survey period was West-South West with a at a average speed of 2.9 m/s. (Please note that recorded weather data could be made available at request.)

**4. DISCUSSION OF RESULTS AND CONCLUSIONS:**

**4.1 Dust deposition:**

Dust deposition rates inside of the operation’s perimeters are slight at all positions

The maximum allowable ambient dust deposition rates recommended by the Dep. of The Environment and Tourism are as follows:

Slight <250 mg/m²/day

Moderate 250-500 mg/m²/day

Heavy 500-1200 mg/m²/day

Very heavy >1200 mg/m²/day

**5. RECOMMENDATIONS FOR FUTURE STUDIES:**

**5.1 Dust deposition / environmental impact:**

In order to obtain further background information and determine the effect of existing operations on the environment, as well as to obtain correlation data for potential dispersion modeling that could be performed, the recommended monthly dust deposition monitoring will be continued.

We trust the information provided meets your expectations. Should you, however, require any further inputs from us; please do not hesitate to contact us.

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**Willem Barwise**

**TABLE 1**

**AVERAGE DUST DEPOSITION RATES (mg/m²/day)**

**30 September 2013**

|  |  |  |  |
| --- | --- | --- | --- |
| **POSITION NUMBER** | **DESCRIPTION** | **COORDINATES** | **DEPOSITION RATE** |
| A | North West | S 26º35.866 E 30º4.835 | 39.68 |
| B | North | S 26º36.182 E 30º5.089 | Stolen |
| C | North West | S 26º36.291 E 30º4.178 | 131.8 |
| D | West (Stolen) | S 26º37.478 E 30º4.269 | 77.46 |
| E | West North West | S 26º37.512 E 30º5.555 | 54.73 |
| F | South West | S 26º37.562 E 30º4.727 | 75.92 |
| G | South | S 26º37.578 E 30º5.644 | 115.11 |
| H | South East | S 26º37.426 E 30º5.791 | 301.73 |
| I | South South East | S 26º37.361 E 30º6.540 | 107.92 |
| J | North South East | S 26º36.927 E 30º5.932 | 48.27 |
| L | North East | S 26º36.778 E 30º5.083 | 64.68 |
| M | Reference in yard | S 26º37.076 E 30º5.136 | 47.84 |

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Moderate 250-500 mg/m²/day

Heavy 500-1200 mg/m²/day

Very heavy >1200 mg/m²/day