

# **MATROCKS GEOLOGICAL SERVICES LTD**

Plot No: s/Ndola/SLS – 0048/2859 Old Mushili, Ndola, Zambia  
Email:matrocksgeoservices@gmail.com  
Contact: +260971630052

## **Geophysical Investigation Report**

**Client:** Mindolo Ecumenical Foundation

**Area:** Chilobwe

**District:** Kalulushi

**Site Selected by:** ATTS

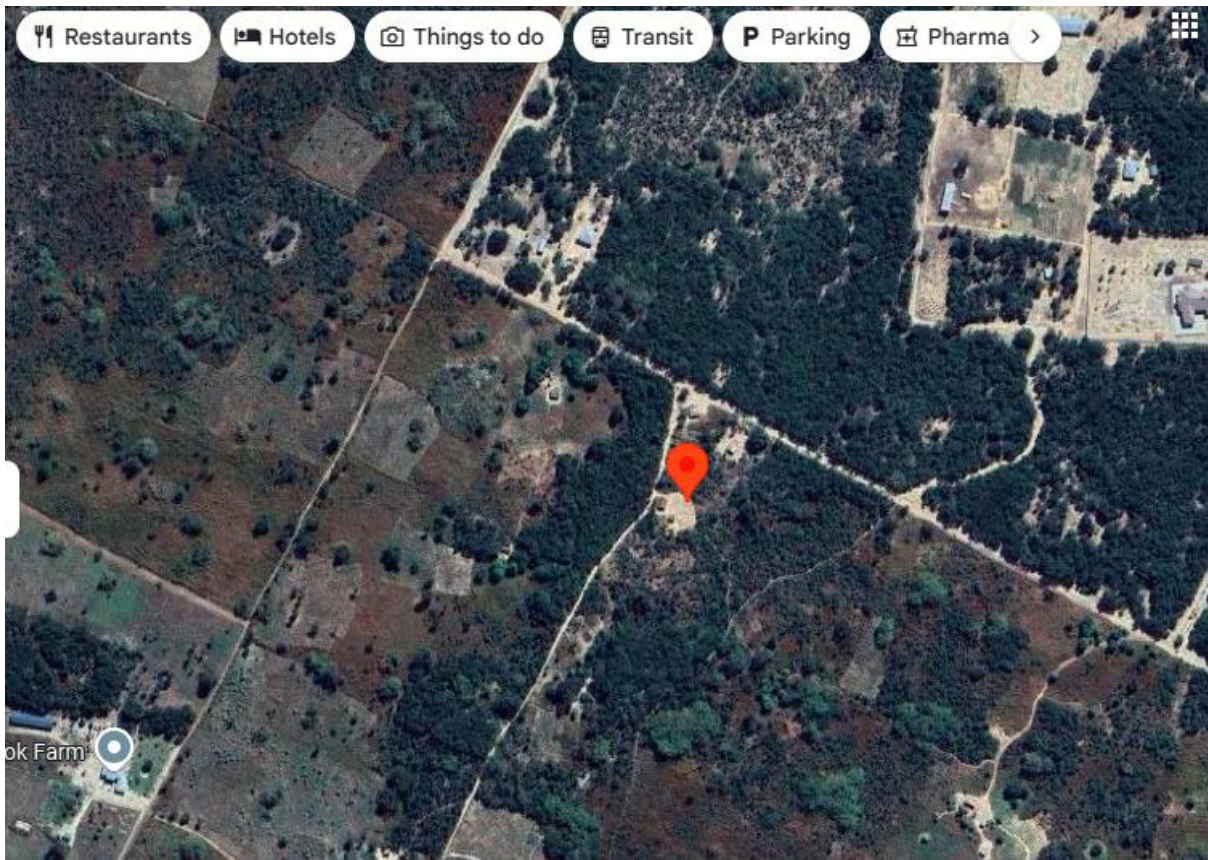
**Date: October 15, 2024**

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## 1. General description of the area

The place lies in Chilobwe, Kalulushi. It is a farm area. This was the first attempt of underground water investigation using geophysical methods.



*Fig.1 Aerial Map*

## 2. Geological formation

The regional geology of the area (drilling site) is in Basement complex formation which is composed of granitic gneiss and schist. It is bordered by Pre-Katanga schist overlain with granitic gneiss, migmatites, clay and laterite. The method used for underground water investigation is resistivity method which uses semi-tomographic of the underground surface with the help of ADMT-300S and PQWT-M100 geologic exploration equipment.

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### 3: Results.

Point **A** at 11.0 & **B** at 40.0 Increments

**First strike (m):** meter

Specific depth (m): **50 (min)- 80(Max)** meters

Potential aquifer depth (m): 30-50 meters

Drill down to: **80meters**

Recommended point **A**

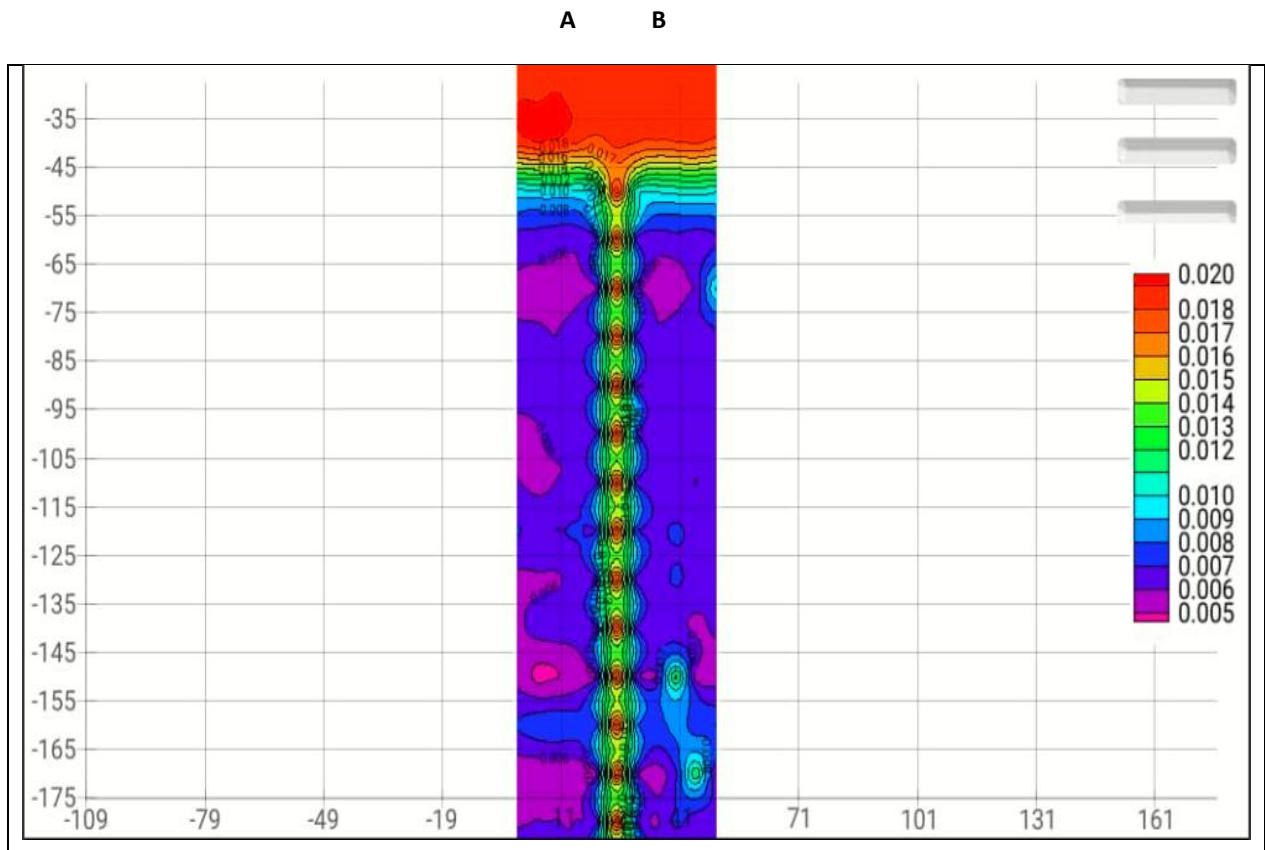


Fig 2: Graphic Seismic results

**NOTE:** If good water yield is found before or within **50-80m** during drilling at the surveyed point, drilling can be stopped at any depth.

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## 4: Recommendation

Two good (**A & B**) possible drill points were identified during survey and further investigations were carried out to check the earths variations (depth-wise) and suitability of the points for borehole drilling. Vertical Electrical Sounding (VES) was as well done and the points indicated to have productive zones (aquifer). The Points on each survey are expected to produce sufficient yields because, they lie on a series of fractured zones from about **50-80m** which has enough reservoirs if drilled down to **80m**. The formation on the site is **Collapsible**, the driller must be equipped during drilling to protect the borehole from collapsing. We recommend borehole drilling to be done at point **A** as a primary point (**marked on site**). **B** can be reserved. The chances of finding water is **80-85%**.

	East	South	Recommendation
<b>Site A</b>	28.1526468	-12.9210922	<b>Recommended</b>
Datum WGS 84			