



July 15, 2022

ISOMA CHILDREN

REPORT OF DRILLING PROGRESS AT LOSSIMINGORI VILLAGE, MONDULI

ISOMA Children requested Chem Chem Drilling Company Ltd to carry out both groundwater Geophysical survey and pilot borehole drilling at Losimingori Village - Monduli District, Arusha.

Geophysical survey work came up with potential drilling site indicating good fractures/ weathered zone possibly with great chance of striking water between 100 to 160 meters deep.

Observation and activities done during pilot borehole drilling at Losimingori village are as follows below

- Drilling depth was 190 meters deep.
- Potential fractured zone found between 120 - 160 meters deep that resemble with survey results.
- Water strike of about 200 liters/ hour at 130 meters found associated with very low recharge that gives unsuccessful pilot hole.
- Bottom rock sample normally do not form groundwater aquifer because it has poor interconnected fractures with limited water storage and cavities resulted in loss of water column found at 130 meters.

Litho logical description of drilling samples and appropriate depth narrated in tabular form below.

| Depth | Description |
|-----------|---|
| 0 - 2 | Top soil mainly clay |
| 2 - 6 | Brown clay with few gravels |
| 6 - 14 | Decomposed rock |
| 14 - 30 | Weathered basalt |
| 30 - 32 | Grayish sand |
| 30 - 42 | Grayish brown small gravels |
| 42 - 50 | Grayish brown fine to coarse sand |
| 50 - 58 | Grayish brown fine and coarse sand with few gravels |
| 58 - 68 | Weathered basalt |
| 68 - 98 | Weathered/ fractured basalt |
| 98 - 106 | Pebbles from fractured basalt |
| 106 - 140 | Weathered/ fractured basalt |
| 140 - 160 | Fractured basalt |
| 160 - 172 | Basaltic rock |
| 172 - 179 | Clay with gravels |
| 179 - 190 | Vesicular basalt and tuff |

Conclusion and recommendations

- a) Intensive and comprehensive geophysical resurveying to identify another potential aquifer spot at different area.
- b) Construction of large dam for harvesting surface rain water on/ near the river.