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EVALUATION OF THE
GROUNDWATER RESOURCE
FOR THE CITY OF BULAWAYO.

CANDIDATE NAME: SIPHO R. MLILO.

NUST LIBRARY

CANDIDATE No: N950228D.

**DEPARTMENT OF CIVIL AND
WATER ENGINEERING.**

**FACULTY OF INDUSTRIAL
TECHNOLOGY.**

SUPERVISOR: PROF. A. E. TAIGBENU.

GB
1197
.84
MLI

**NATIONAL UNIVERSITY OF
SCIENCE AND TECHNOLOGY.**



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ABSTRACT

The project methodology involved exploratory and evaluation exercises. Exploration involved studying some existing information on previous works related to groundwater groundwater exploitation within the city, studying the soils and geology maps of Bulawayo and conducting borehole pump tests so as to ascertain areas of potential groundwater. However, the evaluation was not completed, as the pump tests were not conducted due to delays.

During the exploratory exercise, it was found that the geology of Bulawayo comprises of the granites, the sedimentary and the greenstone Formations. The sedimentary and greenstone Formations have a high groundwater bearing capacity. There is a 52-km² wellfield called Matsheumhlope wellfield, which lies entirely on the greenstone Formation. The wellfield, whose boundaries are shown in map no. 2 contains 3 800 000 m³ of groundwater.

Soils play an important role in the context of groundwater recharge. The soils existing in Bulawayo are reddish to reddish brown clays, dark brown to dark versitols, fine to medium grained loamy sands and coarse grained sands. Those overlying the Matsheumhlope wellfield are reddish brown clays.

In the area of natural groundwater recharge, it was found that 529.87 mm of precipitation falls onto the wellfield as an input, and the outputs were 1677 .6 mm lost as evapotranspiration, 70,08 mm lost as surface runoff. The other output, the soil moisture deficit could not be ascertained, as there was not enough data.