Ground water resource development in hard crystalline rock aquifers on the Nebo Plateau, South Africa.

By

F.S. Botha

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“He opened a rock, 
and water gushed out, 
flowing through the desert like a river”

Psalm 105:41
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ABSTRACT

In some regions of the Northern Province difficulties have risen concerning the provision and management of water resources. This research project attempted to find some solutions to the problems encountered and the principal aims were to understand the water regime and to develop new ground water resources. A research area of approximately 100 km² was chosen in the Jane Furse district Northern Province.

The study area is underlain by granite of the Lebowa Granite Suite, Bushveld Igneous Complex, with Dolerite/Diabase intrusions prominent in the north. Linear structures were identified through field mapping, existing satellite images and geophysical data.

A first phase geohydrological investigation was conducted. The initial results indicated good blow yields, but from pump tests it was deduced that the aquifers have a low storage capacity. The results further indicated that the ground water may have a high fluoride content which must be addressed.
Table of contents

ABSTRACT ................................................................. I
Table of Contents ...................................................... II
List of Tables ............................................................. IV
List of Figures ............................................................. IV
List of Frames ............................................................ V
List of Appendixes ....................................................... V

1 INTRODUCTION .......................................................... 1
   1.1 AIM ................................................................. 1
   1.2 DESCRIPTION OF RESEARCH AREA ............................ 1
   1.3 DRAINAGE REGIONS AND CATCHMENT AREA .................. 3
   1.4 METEOROLOGICAL CONDITIONS ................................ 4
   1.6 PHYTOGEOGRAPHY ............................................... 4
   1.7 SOCIOECONOMIC DEVELOPMENT .................................. 5

2 LITERATURE REVIEW .................................................. 6
   2.1 GIS AND GROUND WATER ......................................... 6
   2.2 GROUND WATER EXPLORATION METHODS IN HARD CRYSTALLINE ROCK AQUIFERS .......................... 8
       2.2.1 Siting ....................................................... 8
       2.2.2 Drilling ..................................................... 10
   2.3 GROUND WATER ASSESSMENT .................................... 10
       2.3.1 Pump testing ............................................... 10
       2.3.2 Pump test analysis ........................................ 12
   2.4 GROUND WATER CHEMISTRY IN HARD CRYSTALLINE ROCK .... 14
       2.4.1 Inorganic assessment .................................... 14
       2.4.2 Sanitation and microbial assessment .................... 15
       2.4.3 Health classification .................................... 16
       2.4.4 Age classification ........................................ 16
   2.5 COMMUNITY WATER SUPPLY ..................................... 16

3 METHOD OF INVESTIGATION ........................................... 18
   3.1 GENERAL APPROACH .............................................. 18
   3.2 IDENTIFYING POTENTIALLY HIGH YIELDING SITES (PHYS) ...... 18
   3.3 GEOPHYSICAL METHODS .......................................... 19
       3.3.1 Air-borne methods ........................................ 19
       3.3.2 Magnetics .................................................. 20
       3.3.3 Frequency domain electromagnetic (EM) method ........... 20
   3.4 CONSTRUCTION OF NEW BOREHOLES ............................. 20
       3.4.1 Rotary air percussion drilling .............................. 20
3.4.2 Core drilling ................................................. 20
3.5 PUMP TEST EVALUATION ................................... 20
3.5.1 Rule of thumb method .................................... 20
3.5.2 Recovery method ......................................... 21
3.5.3 F.C. method ............................................... 21
3.6 WATER BALANCE MODEL .................................... 23

4 RESULTS ......................................................... 26
4.1 GEOGRAPHICAL INFORMATION SYSTEM (GIS) .......... 26
4.2 GENERAL GEOLOGY .......................................... 27
4.3 GEOLOGICAL STRUCTURES .................................. 29
4.3.1 Structural setting ....................................... 29
4.3.2 Structure census and mapping ......................... 30
4.3.3 Genetic growth and age .................................. 31
4.3.4 Regional setting ........................................ 34
4.4 EXISTING BOREHOLE INFORMATION ....................... 34
4.4.1 Borehole census ......................................... 34
4.4.2 Yields and water levels from existing boreholes .... 34
4.4.3 Chemical analysis of borehole water ................. 36
4.5 SITING OF NEW BOREHOLES ............................... 37
4.5.1 Potential high yielding site no.4 ....................... 37
4.5.2 Potential high yielding site no.5 ....................... 37
4.5.3 Potential high yielding site no.7 ....................... 38
4.5.4 Potential high yielding site no.8 & 9 ................. 38
4.5.5 Potential high yielding site no.11 ..................... 38
4.5.6 Potential high yielding site no.13 ..................... 38
4.5.7 Potential high yielding site no.16 ..................... 38
4.5.8 Potential high yielding sites no.19,20 and 21 ......... 38
4.5.9 Potential high yielding sites no.22 ..................... 38
4.6 RADON EMANATION TECHNIQUE .......................... 39
4.7 CONSTRUCTION OF NEW BOREHOLES .................... 39
4.7.1 Potential high yielding site no.4 ....................... 40
4.7.2 Potential high yielding site no.5 ....................... 40
4.7.3 Potential high yielding site no.7 ....................... 40
4.7.4 Potential high yielding site no.8 ....................... 42
4.7.5 Potential high yielding site no.9 ....................... 42
4.7.6 Potential high yielding site no.11 ..................... 42
4.7.7 Potential high yielding site no.13 ..................... 43
4.7.8 Potential high yielding site no.16 ..................... 43
4.7.9 Potential high yielding site no.19 ..................... 44
4.7.10 Potential high yielding site no.20 ................. 44
4.7.11 Potential high yielding site no.21 ................. 44
4.7.12 Potential high yielding site no.22 ................. 45
4.8 CORE DRILLING ............................................. 45
4.9 BOREHOLE EVALUATION ................................... 46
4.9.1 Pump testing ............................................. 46

-III-
5 CONCLUSION AND RECOMMENDATIONS

5.1 DRILLING OF NEW BOREHOLES ............................................ 53
5.2 PUMP TESTING ............................................................... 53
5.3 AQUIFER TYPES IDENTIFIED ............................................. 54
  5.3.1 Fractured aquifers associated with major fractures .............. 55
  5.3.2 Fractured aquifers associated with dyke material ............... 55
  5.3.3 Weathered aquifers resulted from the weathering of major fractures 55
5.4 CHEMICAL ANALYSIS ...................................................... 56
5.5 WATER BALANCE ............................................................ 56

6 SUMMARY ........................................................................... 58

7 REFERENCES ......................................................................... 60

List of Tables

Table 1. General composition of human excreta .................................. 15
Table 2. Bacteria and Viruses and their associated illness ...................... 16
Table 3. GIS information captured .................................................. 27
Table 4. Fracture strike orientation ................................................... 32
Table 5. Borehole census in the study area ......................................... 35
Table 6. Inorganic analysis of seven existing boreholes ......................... 36
Table 7. Organic analysis of existing boreholes .................................... 36
Table 8. Boreholes selected for pump testing ...................................... 46
Table 9. Basic pump test results ...................................................... 47
Table 10. Summary of observation boreholes ...................................... 51
Table 11. Summary of chemical classes and sample dates ..................... 52
Table 12. Sustainable Yields ........................................................ 54
Table 13. Assumptions made during calculations of the water balance .... 56

List of Figures

Figure 1. Regional locality map ...................................................... 2
Figure 2. Access to study area ...................................................... 3
Figure 3. Three different porosity systems described by Kruseman and de Ridder 13
Figure 4. Air-borne magnetic data from Combrinck (1999) .................... 19
Figure 5. Recovery method ........................................................ 21
Figure 6. Example of data sheet as step 1 in the FC_Method .................. 22
Figure 7. Step 2 with the FC_Method ........................................... 22
Figure 8. Derivative plot from FC_Method ....................................... 23
Figure 9. Basic solution for FC_Method ......................................... 23
Figure 10. Single cell water balance based on Bear ............................. 23
Figure 11. Schematic presentation of recharge from the river. 24
Figure 12. Digital terrain model created from the contours. 26
Figure 13. General geology and geological structures obtained from the 1: 250 000 Nylstroom geological sheet. 28
Figure 14 Linear features mapped. 31
Figure 15. The major strikes of the most prominent geological structures 33
Figure 16. Potentially high yielding sites identified using structural and geophysical methods. 37
Figure 17. EM-34 and radon data profile with boreholes drilled. 39
Figure 18. PHYS selected during the structural investigation and also indicating successes 40

List of Frames

Frame 1. Granitic tors 1
Frame 2. Marshes and wetlands are common next to roads 3
Frame 3. Little plant cover exists due to exploitation of available resources 4
Frame 4. Typical Nebo Granite Rock 27
Frame 5. The contact between the dolerite and the granite 29
Frame 6. The Malope Dome seen from the north 30
Frame 7. Typical movement along shear axes 30
Frame 8. Linear lineaments can be followed for several kilometres. 32
Frame 9. Linear features at PHYS no. 7 38
Frame 10. Fracturing highly visible at PHYS no. 21 38
Frame 11. Artesian borehole drilled 45

List of Appendices

Appendix 1 - Potentially high yielding sites.
Appendix 2 - Pump test data.