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LEADERS IN ENVIRONMENTAL MONITORING

# Rietkol Project

Hydrocensus Report

March 2018

Prepared by Aquatico Scientific (Pty) Ltd.

# RIETKOL PROJECT
# HYDROCENSUS REPORT
# 2018

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**DISCLAIMER:**

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## 1 INTRODUCTION

Aquatico Scientific was commissioned to conduct a hydrocensus for Consol Glass (Pty) Ltd. ("Rietkol Project") commencing April 2016. The Rietkol MRA is situated approximately 6 km east of Delmas and 4 km North of Eloff, within Ward 9 of the Victor Khanye Local Municipality and Nkangala District in the Mpumalanga province. An extended area was to be monitored in January 2017 to include a larger area around the proposed mining area. A further inclusion was done in March 2018 to add more data from the surrounding farms and localities not previously included in the survey. This report will summarise all available results from the various surveys as a whole.

In a situation where development is required in an area, existing and historical data narrowly provides sufficient information on the availability of boreholes, water quality, and water use within an area. Therefore it is often important to gather additional information from individuals within that area, hence the relevance of a hydrocensus.

Hydrocensus involves the collection of field data to develop an absolute understanding of the hydrological systems as well as their condition within an area. Data collected usually involves borehole coordinates or coordinates of surface water bodies, groundwater levels, water samples for chemical analysis and typical water use in the study area.

Various landowners were visited over different timespans and representative boreholes on their respective properties were surveyed.

## 2 SCOPE OF WORK

The aim of a hydrocensus field survey is as follows:

- Locating all interested and affected persons (I&APs) of the proposed development.
- Gathering of personal information from the I&APs (Name, Telephone number, Address, etc.).
- Accurately logging of representative boreholes on the I&APs properties.
- Gathering of information of the logged boreholes (Yield, Age, Depth, Water level, etc.).
- Analysing representative ground and surface water samples from the I&APs properties.
- Establishing a baseline water quality for the hydrocensus area.
- Presenting the surveyed data on a map.

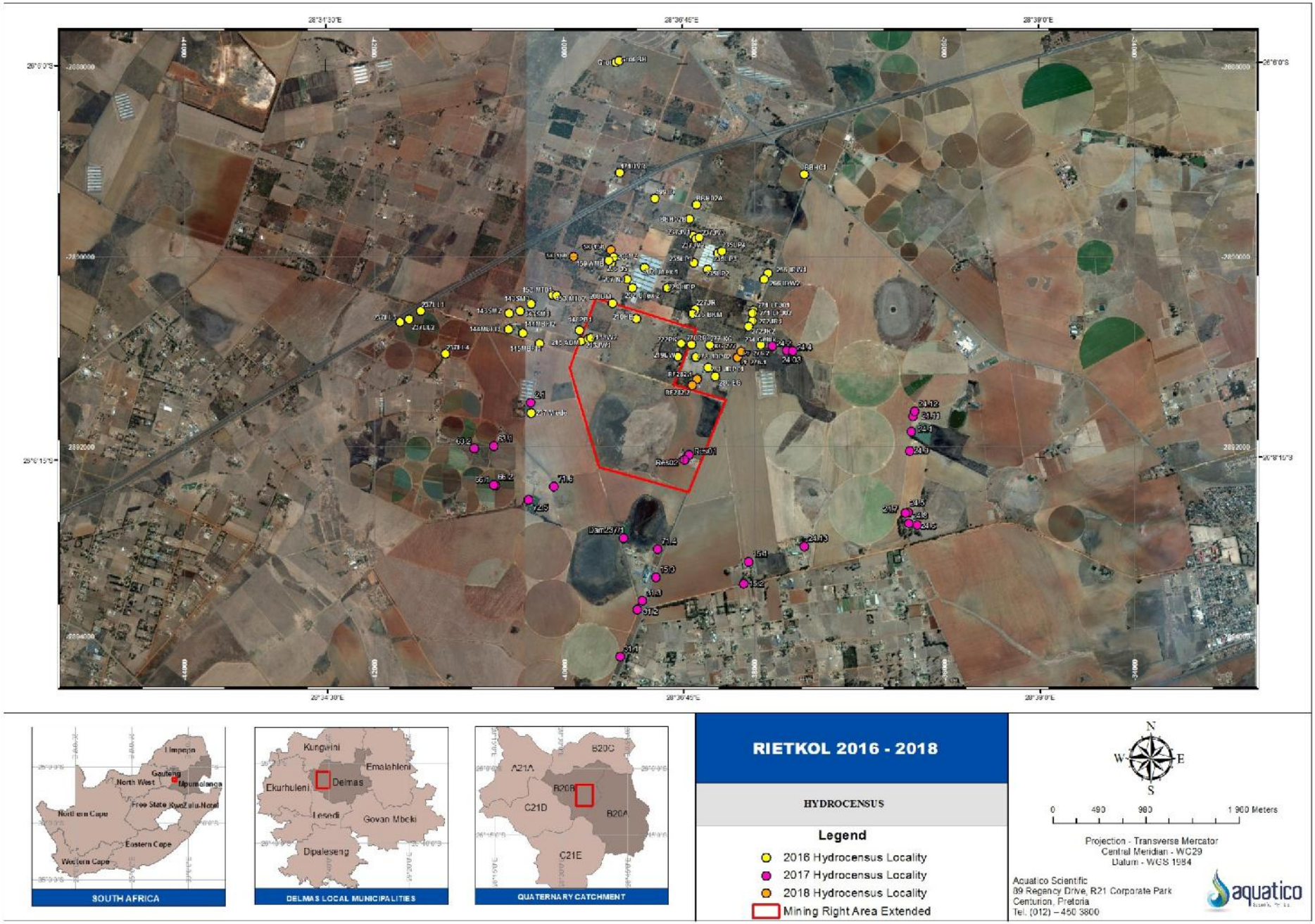


Figure 1: Hydrocensus locality map for the Rietkol Project (2016 to 2018).

## 3 FIELD SURVEY RESULTS & FINDINGS

During the 2016 survey fifty-six localities were visited of which forty could be sampled; water levels were recorded where possible. Ten of the samples were chosen to be analysed for chemical variables; the chosen samples were localities thought to be more vulnerable to the future development activity.

One of the prominent localities was an underground lake with an opening towards the surface; this cave opening may be entered to reach the lake. At the time of sampling the land from which the cave was accessible belonged to a Mr. Joseph Coombie. A borehole was found close to the cave entrance, an old mono pump column is still fixed inside the borehole. The water level in the borehole was measured at 23.50 mbs. Below are photos of the cave entrance and the borehole.

Figure 2: Cave entrance to the underground lake (left) and borehole drilled into the lake (right).

During the extended survey in 2017 twenty-six boreholes and four dams (receiving water pumped from inaccessible boreholes) were visited; from these thirty surveyed localities twenty-four could be sampled and water levels taken where possible. Eight relevant samples were chosen and analysed for chemical variables.

Seven additional boreholes were visited in 2018, from these four could be sampled and also analysed; water levels were taken where possible.

Figure 1 indicates the position of all the surveyed localities in the hydrocensus area between the 2016 and 2018 monitoring periods. A complete list of the localities monitored between 2016 and 2018 is presented in **Appendix A**. Stated in this list are also the coordinates, water levels, depths and water uses (which are mostly for domestic, livestock watering and irrigation) of the surveyed localities.

# 4 WATER QUALITY DISCUSSION

Water quality results were evaluated against the SANS 241-1:2015 drinking water standards and the South African Water Quality Guidelines (SAWQG) for Agricultural Use: Irrigation (DWAF, 1996). The water from the localities encountered during this hydrocensus survey is mostly used for domestic purposes, agricultural irrigation and some livestock watering.

The water quality is also classified according to the WRC Quality of Domestic Water Supplies colour classification system (Table 1). When comparing the data to the guidelines, the worst substance class will determine the overall class of the water supply. Water quality is classified according to the variables tested.

**Table 1: WRC Quality of Domestic Water Supplies – Colour classification system**

| Class/Colour | Description | Effects |
|---|---|---|
| Class 0 | Ideal water quality | No effects, suitable for many generations |
| Class 1 | Good water quality | Suitable for lifetime use. Rare instances of sub-clinical effects |
| Class 2 | Marginal water quality | May cause some effects in sensitive users. Some effects possible after a lifetime of use. Aesthetic effects. |
| Class 3 | Poor water quality | Poses risk of chronic health effects, especially in babies, children and the elderly. Poor aesthetics |
| Class 4 | Unacceptable water quality | Severe acute health effects, even with short-term use. Taste and appearance will lead to rejection of the water. |

## 4.1 Expanded Durov Diagram

Among other chemical diagrams used to describe water quality such as Piper, Stiff and expanded Durov diagrams, expanded Durov diagram stands out for it clarity in characterizing groundwater. This is because the dominating cations ($Mg^{2+}$, $Ca^{2+}$, $Na^{+}$ and $K^{+}$) and anions ($HCO_3^{2-}$, $SO_4$, $NO_3^{-}$ and $Cl^{-}$) present in the localities could clearly be seen from the fields in which the localities plot. As with STIFF diagrams, the plot positions are determined on the basis of milli-equivalent per litre (meq/l). The characteristics of the different fields will be discussed briefly: The boreholes will also be plotted on the expanded Durov diagram to help characterise the groundwater qualities. The characteristics of the different fields will be discussed briefly**:**

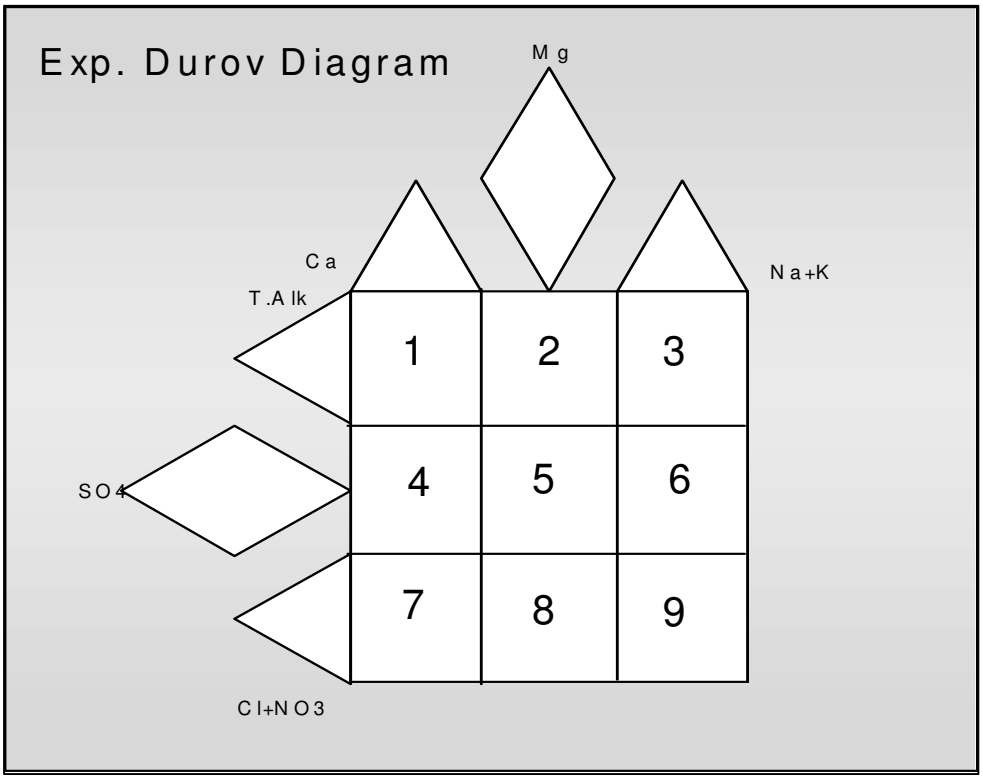


**Figure 3: Typical layout of the expanded Durov Diagram with different fields shown**

Field 1:
Fresh, very clean recently recharged groundwater with $HCO_3^-$ and $CO_3$ dominated ions

Field 2:
Field 2 represents fresh, clean, relatively young groundwater that has started to undergo Mg ion exchange, often found in dolomitic terrain.

Field 3:
This field indicates fresh, clean, relatively young groundwater that has undergone Na ion exchange (sometimes in Na-rich granites or other felsic rocks), or because of contamination effects from a source rich in Na.

Field 4:
Fresh, recently recharged groundwater with $HCO^{3-}$ and $CO_3$ dominated ions that has been in contact with a source of $SO_4$ contamination, or that has moved through $SO_4$ enriched bedrock.

Field 5:
Groundwater that is usually a mix of different types – either clean water from Fields 1 and 2 that has undergone $SO_4$ and NaCl mixing / contamination, or old stagnant NaCl dominated water that has mixed with clean water.

Field 6:

Groundwater from Field 5 that has been in contact with a source rich in Na, or old stagnant NaCl dominated water that resides in Na-rich host rock / material.

Field 7:
Water rarely plots in this field that indicates $NO_3$ or Cl enrichment, or dissolution.

Field 8:
Groundwater that is usually a mix of different types - either clean water from Fields 1 and 2 that has undergone $SO_4$, but especially Cl mixing / contamination, or old stagnant NaCl dominated water that has mixed with water richer in Mg.

Field 9:
Very old, stagnant water that has reached the end of the geohydrological cycle (deserts, salty pans, etc.) or water that has moved a long time and/or distance through the aquifer and has undergone significant ion exchange.

### 4.2 Stiff diagrams

The Stiff diagrams found in Figure 6 graphically represent the major cation and anion composition of a water sample. This is a useful tool for assessing the chemical water quality differences and similarities of groundwater samples.

## 5 RESULTS

### 5.1 Water quality results

The water quality results of analysed localities are presented in **Appendix B**. Table 2 below gives a summary of the results based on analysed variables, classified according to the WRC (1998) classification system.

Most analysed water samples complied with the SANS 241-1:2015 drinking water standards for analysed variables; samples **148PB1** and **202Unex2** exceeded the SANS 241-1:2015 drinking water standards in terms of nitrate concentrations while locality **RKLX** exceeded in terms of manganese concentrations.

The SAWQG agricultural use: irrigation and agricultural use: livestock watering respectively were exceeded sporadically; these exceedances may be viewed in the locality assessment reports (Appendix C).

**Table 2: Summary of results for samples analysed between 2016 and 2018.**

| Locality / sample name | WRC Classification | Exceedance in terms of | Physical water Quality |
|---|---|---|---|
| 148PB1 | Class 2 -Marginal | $NO_3$ | Neutral, hard and non-saline |
| 153MT2 | Class 1 - Good | Total hardness | Neutral, slightly hard and non-saline |
| 202Unex2 | Class 2 -Marginal | $NO_3$ | Neutral, moderately soft and non-saline |
| 208BM | Class 1 - Good | Total hardness | Neutral, hard and non-saline |
| 213JW1 | Class 0 - Ideal | - | Neutral, moderately hard and non-saline |
| 222PK | Class 0 - Ideal | - | Neutral, moderately hard and non-saline |
| 226BKM | Class 0 - Ideal | - | Neutral, moderately hard and non-saline |
| 229HDP | Class 0 - Ideal | - | Alkaline, moderately soft and non-saline |
| 235LP3 | Class 0 - Ideal | - | Neutral, slightly hard and non-saline |
| 278JDP02 | Class 0 - Ideal | - | Alkaline, moderately hard and non-saline |
| PF 276.1 | Class 0 - Ideal | - | Neutral, moderately hard and non-saline |
| PF 276.2 | Class 1 - Good | $NO_3$ | Neutral, moderately hard and non-saline |
| KG 277 | Class 0 - Ideal | - | Neutral, moderately hard and non-saline |
| Res 02 | Class 1 - Good | Total hardness | Neutral, hard and non-saline |
| RF282.1 (RKLX) | Class 1 - Good | Mn, Total hardness | Neutral, hard and non-saline |
| Section 15.2 | Class 0 - Ideal | - | Alkaline, slightly hard and non-saline |
| Section 2.1 | Class 1 - Good | $NO_3$ | Neutral, moderately hard and non-saline |
| Section 24.13 | Class 0 - Ideal | - | Neutral, moderately hard and non-saline |
| Section 24.5 | Class 0 - Ideal | - | Neutral, moderately hard and non-saline |
| Section 63.1 | Class 0 - Ideal | - | Alkaline, moderately hard and non-saline |
| Section 71.4 | Class 0 - Ideal | - | Neutral, moderately hard and non-saline |
| Section 72.5 | Class 0 - Ideal | - | Neutral, moderately hard and non-saline |

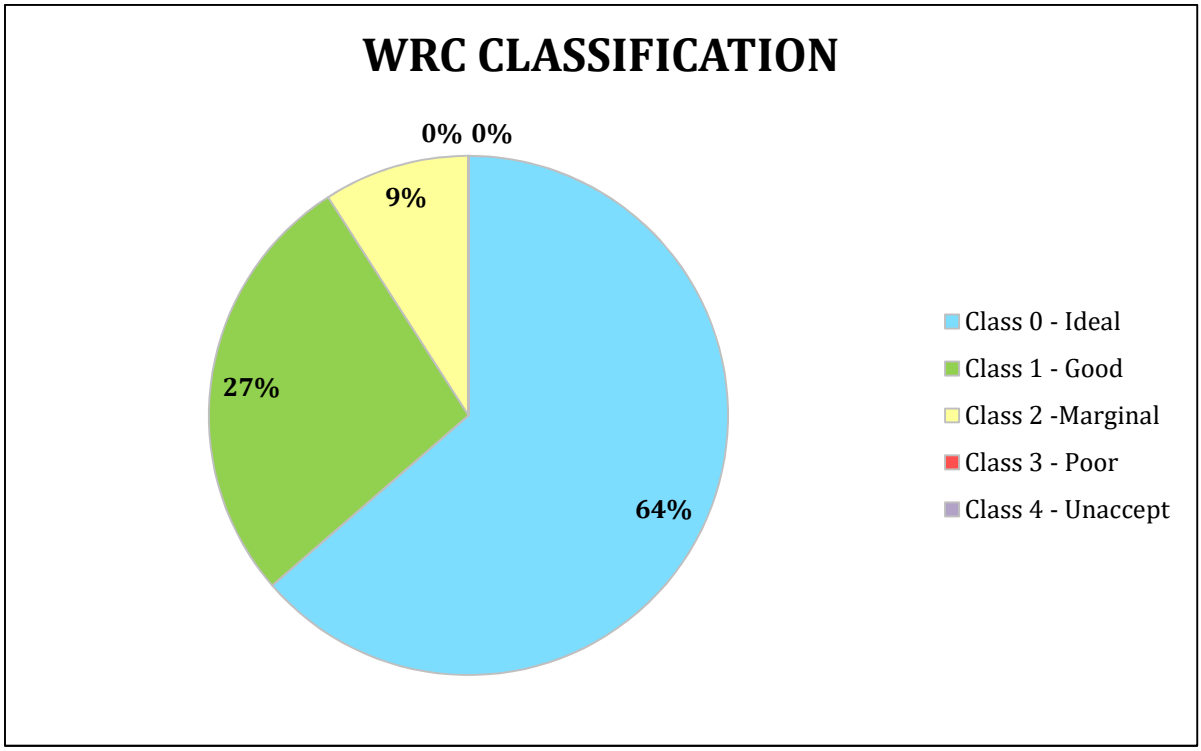


**Figure 4: Percentage of localities that make up each Domestic use class according to the WRC Quality of Domestic Water Supplies guidelines (1998)**

Of the twenty-two (22) localities that had been analysed:

- Fourteen (14) were found to be **Ideal** (64%)
- Six (6) were found to be **Good** (27%),
- Two (2) were found to be **Marginal** (9%),
- Zero (0) were found to be **Poor** (0%) and
- Zero (0) were found to be **Unacceptable** (0%).

The groundwater qualities of selected samples are represented in the Expanded Durov diagram in Figure 5 while graphical representations of the dominant ions are seen in the Stiff diagrams, Figure 6.

### 5.2 Recorded water levels

Recorded water levels for the hydrocensus localities are illustrated in figure 7; more information on borehole depths etc. may be found in **Appendix A** and **Appendix D**. All water levels are given in meters below surface (mbs).

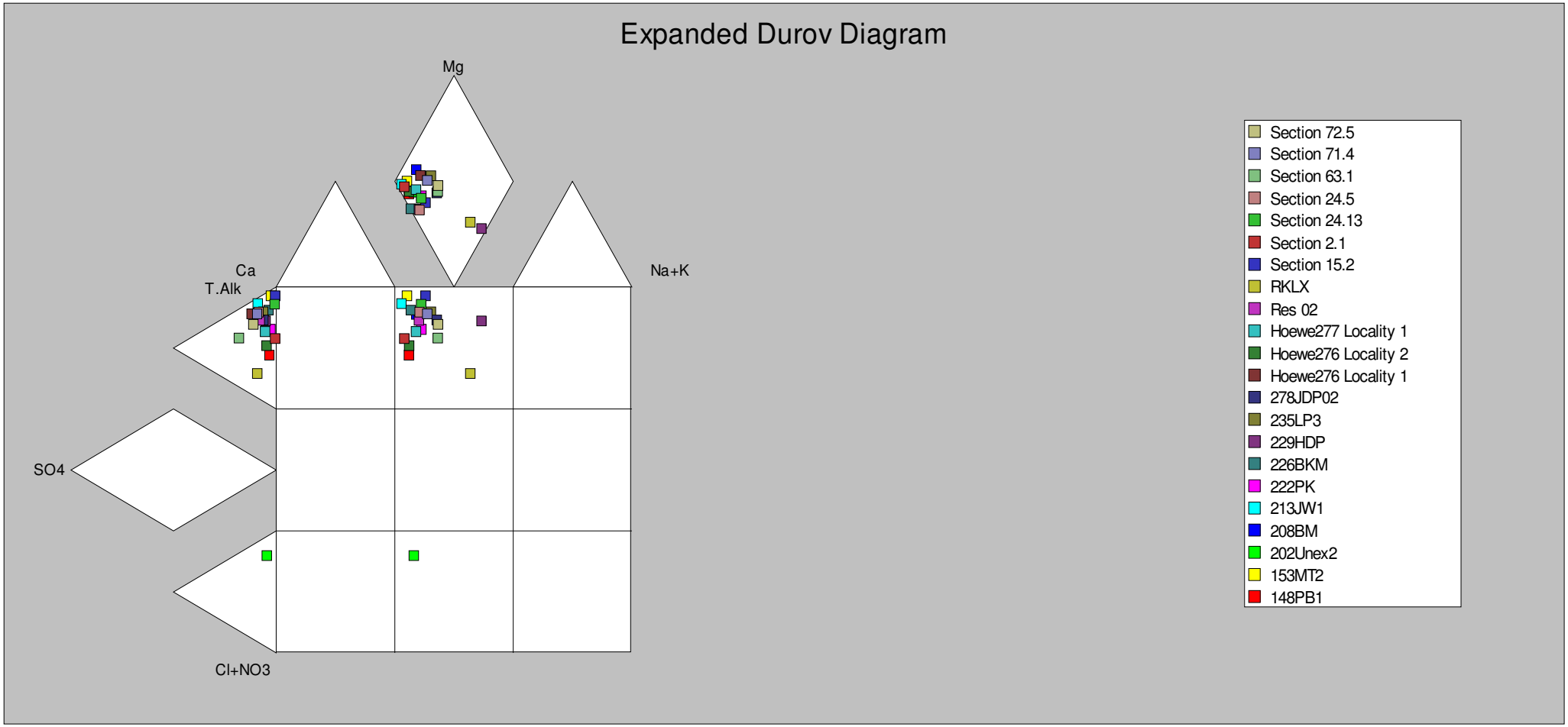


**Figure 5: Expanded Durov diagram for extended area hydrocensus boreholes**

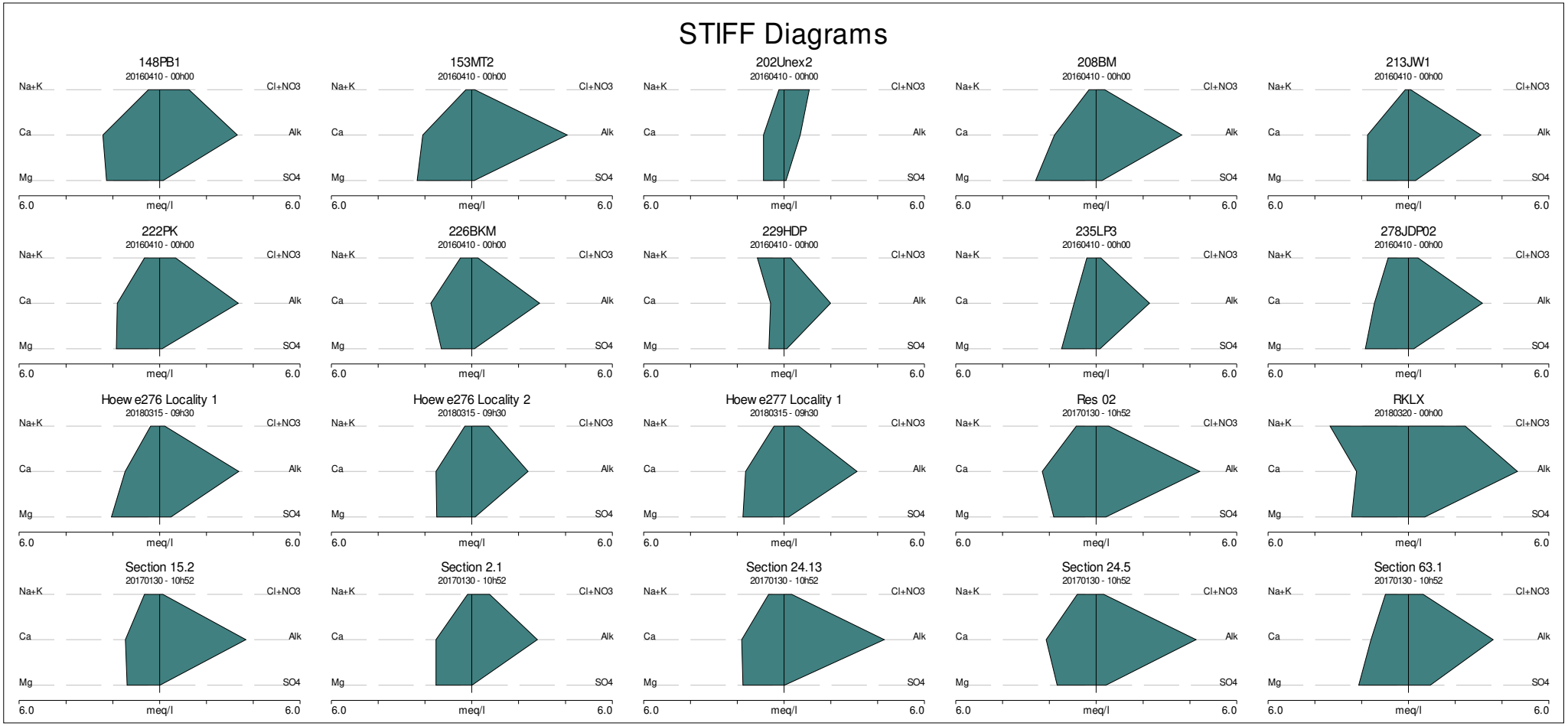


**Figure 6: Stiff diagram for extended area hydrocensus boreholes**

**Static water level distribution of selected monitored localities between the 2016 to 2018 monitoring periods**

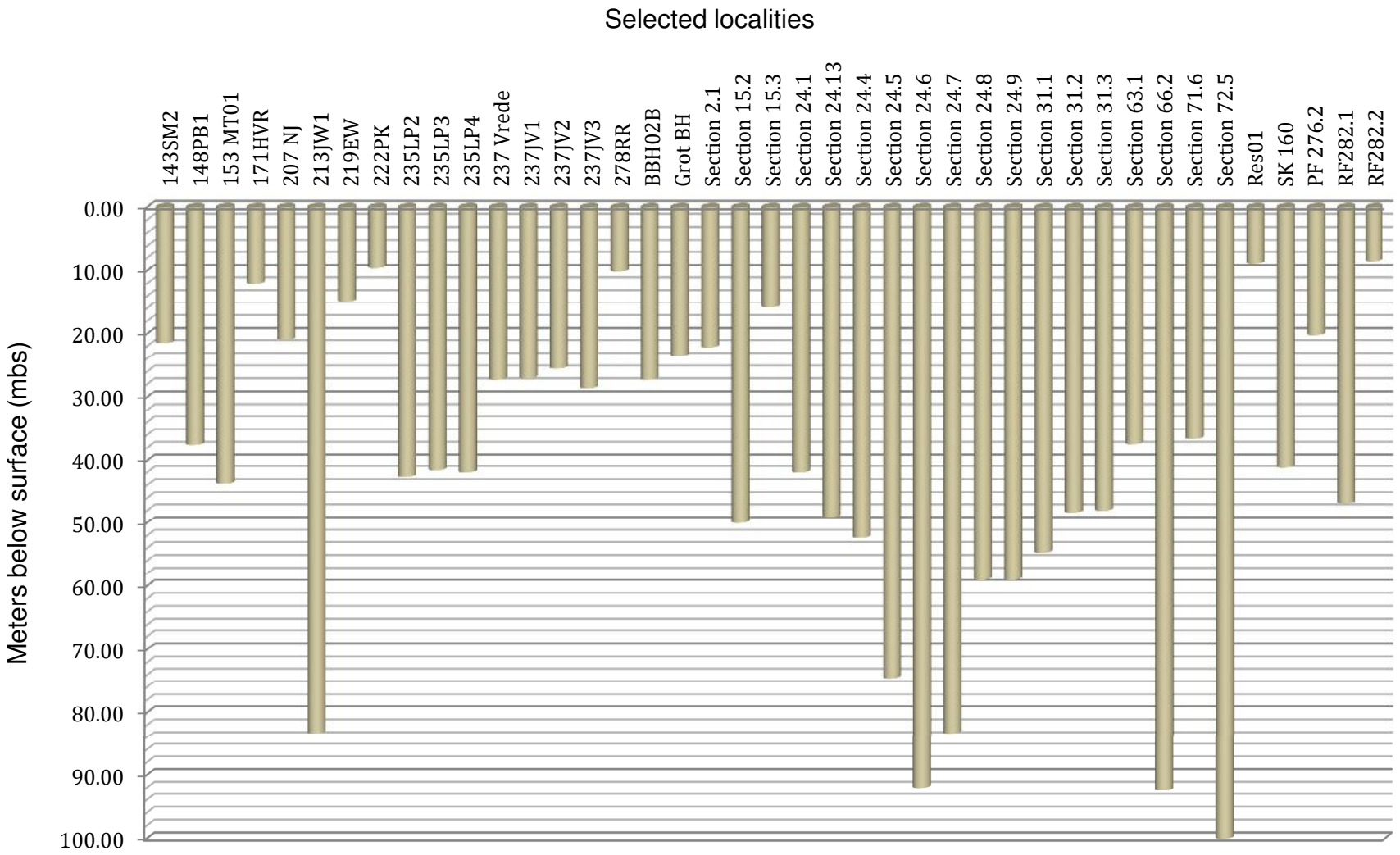


**Figure 7: Groundwater levels of selected monitored localities in meters below surface (mbs)**

## 6 DISCUSSION

- Water quality of most analysed samples were classified as ideal (class 0) or good (class1) water quality for domestic use, also complying with drinking water standards. Classifications are based on the WRC 1998 classification system based on analysed variables. Groundwater of the analysed localities contains low or no pollutants in terms the variable analysed for.

- Two samples were classified as marginal (class 2) water quality for domestic use due to nitrate concentrations detected. The two sample localities were seen to be spatially located relatively close together.

- The DWAF SAWQG for Agriculture: Irrigation guidelines and SAWQG for Agriculture: Livestock watering guidelines were exceeded at various localities. These qualities should be observed as most of the sampled localities use water for irrigation and livestock watering purposes.

- Salts and nutrients had low to moderate concentrations in all samples.

- Heavy metals were mostly below detection limits.

- Any pollutant entering the groundwater and altering the water chemistry significantly should be relatively easy to detect at these localities with their current water quality.

- Static groundwater levels, of localities where water levels could be established, varied greatly between localities.

- In terms of the Expanded Durov diagram, most samples fell within the Field 2 category. Field 2 represents fresh, clean, relatively young groundwater that has started to undergo magnesium ion exchange, often found in dolomitic terrain. This field depicts water of a very high quality, according to measured dominant ions.

- One sample (**202Unex2**) fell within the Field 8 category. This field represents groundwater that is usually a mix of different types - either clean water from Fields 1 or 2 that has undergone sulphate, but especially chloride mixing / contamination, or old stagnant sodium-chloride dominated water that has mixed with water richer in magnesium.

- From the Stiff diagrams (Figure 6) may also be seen that most samples had similar graphical representations, dominated by the calcium carbonate anion and the calcium or magnesium cation. Sample **202Unex2** is seen to stand out differently from the other samples.

# 7 CONCLUSION

- Between the 2016 and 2018 monitoring periods a total of ninety-three (93) localities were surveyed of which sixty-eight (68) localities could be sampled; critical localities were chosen to be analysed, totalling twenty-two samples that were chemically analysed.

- Water from the various localities surveyed is mostly used for domestic purposes, agricultural irrigation, livestock watering or a combination thereof.

- Most analysed samples were of good quality and complied with drinking water standards, in terms of analysed variables.

- The DWAF SAWQG for Agriculture: Irrigation guidelines and the SAWQG for Agriculture: Livestock watering guidelines were exceeded for various analysed variables.

- The majority of samples also had similar chemical water compositions, seen in the Extended Durov diagram and Stiff diagrams respectively.

- Water-levels were recorded at several localities and revealed variating static water levels. Many localities were blocked or inaccessible and a water-level could not be measured.

- Water samples from the analysed localities are of good quality and pollutants in the groundwater should be easily detected.

## 8 REFERENCES

WRC, (1998): Water Research Commission No: TT 101/98, Quality of Domestic Water Supplies, Vol. 1: Assessment Guide, Second Edition.

Department of Water Affairs and Forestry (DWAF). Act N. 36 of 1998: National Water Act, 1998

Department of Minerals and Energy (DME). Act N 28 of 2002: Minerals and Petroleum Resources Development Act, 2002

The South African Bureau of Standards (SABS), ISO 5667-1 to 5667-15, First Edition, 1999

Department of Water Affairs and Forestry (DWAF). 2006: Best Practice Guideline N. G3. Water Monitoring Systems.

Department of Water Affairs and Forestry (DWAF). Targeted Water Quality Guidelines:

Domestic Use (Volume 01), Livestock Watering (Volume 05), Irrigation (Volume 04). 1998.

# Appendix A

*Survey register*

| Rietkol Project Hydrocensus - 2016 survey | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Locality** | **Groundwater locality type** | **X-Coordinate** | **Y-Coordinate** | **Static water level** | **Borehole depth** | **Water Sampled** | **Water Use** |
| 143SM1 | Borehole with submersible pump | 28.59538 | 26.12344 | - | 20.3 mbs | Yes | Domestic |
| 143SM2 | Borehole with submersible pump | 28.59421 | 26.12361 | 21.50 mbs | 52 mbs | No | - |
| 143SM3 | Borehole with submersible pump | 28.59655 | 26.12273 | - | - | No | - |
| 144MBFI2 | Borehole with submersible pump | 28.59564 | 26.12549 | - | 70 mbs Est. | Yes | Irrigation |
| 144MBFI3 | Borehole with submersible pump | 28.59414 | 26.12514 | - | 70 mbs Est. | Yes | Irrigation |
| 145MBFI1 | Borehole with submersible pump | 28.59742 | 26.1265 | - | - | Yes | Irrigation |
| 148PB1 | Open Borehole | 28.60159 | 26.12526 | 37.52 mbs | - | Yes | - |
| 153 MT01 | Monitoring Borehole | 28.59882 | 26.12195 | 43.73 mbs | 150 mbs | Yes | Monitoring Borehole |
| 153 MT02 | Borehole with submersible pump | 28.59918 | 26.12198 | - | - | Yes | Domestic and Irrigation |
| 159 AMB | Borehole with submersible pump | 28.60471 | 26.11863 | - | - | No | Not in use |
| 171HVR | Mono Pump | 28.6059 | 26.11032 | 12 mbs | 32 mbs | Yes | Domestic, Irrigation and Livestock |
| 199 ID | Borehole with submersible pump | 28.60957 | 26.11277 | - | - | Yes | Domestic |
| 202 Unex 1 | Borehole with submersible pump | 28.60848 | 26.11935 | - | - | Yes | Irrigation of roses |
| 202 Unex 2 | Borehole with submersible pump | 28.60716 | 26.12128 | - | - | Yes | Irrigation of roses |
| 205MZ | Borehole with submersible pump | 8.60522 | 26.11833 | - | - | Yes | Domestic |
| 206 JS | Borehole with submersible pump | 28.60498 | 26.11887 | - | 83 mbs Est. | Yes | Domestic, Irrigation and Livestock |
| 207 NJ | Borehole with submersible pump | 28.60660 | 26.12044 | 20.89 mbs | - | Yes | Domestic, Irrigation and Livestock |
| 208BM | Borehole with submersible pump | 28.60510 | 26.12275 | - | - | Yes | Domestic and Livestock |
| 210HB | Borehole with submersible pump | 28.60759 | 26.12421 | - | 80 mbs Est. | No | Domestic, Irrigation and Livestock |
| 213JW1 | Borehole with submersible pump | 28.60252 | 26.12613 | 83.26 mbs | 160 mbs Est. | Yes | Domestic, Irrigation and Livestock |
| 213JW2 | Borehole with submersible pump | 28.60282 | 26.12603 | - | 87 mbs | No | Domestic, Irrigation and Livestock |
| 216 ABM | Borehole with submersible pump | 28.60181 | 26.12634 | - | 200 mbs Est. | No | Domestic |
| 219EW | Borehole with submersible pump | 28.61197 | 26.1278 | 14.83 mbs | - | No | Domestic |
| 222PK | Borehole with submersible pump | 28.61229 | 26.12656 | 9.58 mbs | 71.20 mbs | Yes | Domestic and Livestock |
| 226 BKM | Borehole with submersible pump | 28.61354 | 26.12374 | - | - | Yes | Domestic, Irrigation and Livestock |
| 227JR | Open Borehole | 28.61380 | 26.12330 | - | - | No | - |
| 229 HDP | Borehole with submersible pump | 28.61085 | 26.12126 | - | 115 mbs | Yes | Domestic and Irrigation |
| 234 Geluk | Borehole with submersible pump | 28.62066 | 26.12674 | 38 mbs Est. | 47.50 mbs Est. | Yes | Livestock (Chicken) and Irrigation |
| 235LP1 | Borehole with submersible pump | 28.61366 | 26.11891 | 42.69 Est. | 160 mbs Est. | Yes | Irrigation of roses |
| 235LP2 | Monitoring borehole | 28.61512 | 26.11951 | 42.69 mbs | 140 mbs Est. | Yes | Monitoring borehole |
| 235LP3 | Borehole with submersible pump | 28.61621 | 26.11798 | 41.64 mbs | 84 mbs | Yes | Domestic |
| 235LP4 | Borehole with submersible pump | 28.61663 | 26.11781 | 42 mbs | 140 mbs Est. | Yes | Irrigation of roses |
| 237 Vrede | Borehole with submersible pump | 28.59652 | 26.13312 | 27.28 mbs | - | Yes | Livestock (Chicken) |
| 237JV1 | Borehole with submersible pump | 28.61359 | 26.11633 | 27.05 mbs | 101 mbs Est. | No | - |
| 237JV2 | Borehole with submersible pump | 28.61387 | 26.11662 | 25.5 mbs | 61 mbs | No | - |
| 237JV3 | Borehole with submersible pump | 28.61425 | 26.11648 | 28.55 mbs | 65 mbs | Yes | Domestic |
| 237LL1 | Borehole with submersible pump | 28.58494 | 26.12340 | - | - | Yes | Irrigation |
| 237LL2 | Borehole with submersible pump | 28.58368 | 26.12419 | - | - | No | Irrigation |
| 237LL3 | Borehole with submersible pump | 28.58274 | 26.12441 | - | - | No | Irrigation |
| 237LL4 | Borehole with submersible pump | 28.58751 | 26.12748 | - | - | No | Irrigation |
| 266 IDW1 | Borehole with submersible pump | 28.62148 | 26.11989 | - | 57 mbs Est. | Yes | Domestic and Irrigation |
| 266 IDW2 | Borehole with submersible pump | 28.62102 | 26.12049 | - | 90 Est. | | |
| 271 LFJ01 | Borehole with submersible pump | 28.61996 | 26.12345 | - | - | Yes | Domestic and Irrigation |
| 271 LFJ02 | Borehole with submersible pump | 28.61981 | 26.12371 | - | - | No | - |
| 272JR1 | Borehole with submersible pump | 28.61984 | 26.12446 | - | 65 mbs Est. | Yes | Domestic, Irrigation and Livestock |
| 272JR2 | Well | 28.61943 | 26.12496 | - | 6 mbs | Yes | - |
| 277 KG | Borehole with submersible pump | 28.61530 | 26.12674 | - | - | Yes | Domestic and Irrigation |
| 278 JDP02 | Borehole with submersible pump | 28.61386 | 26.12788 | - | 180 mbs Est. | Yes | Domestic and Livestock |
| 278RR | Open Borehole | 28.61343 | 26.12667 | 10.10 mbs | 16.45 mbs | Yes | - |
| 280 EG | Borehole with submersible pump | 28.61589 | 26.12967 | - | 43mbs | Yes | Domestic and Irrigation |
| 281 JDP01 | Borehole with submersible pump | 28.61513 | 26.12885 | - | 54 mbs | Yes | Domestic and Livestock |
| BBH01 | Borehole with submersible pump | 28.62527 | 26.11050 | - | 26.62 mbs | Yes | Irrigation |
| BBH02A | Borehole with submersible pump | 28.61397 | 26.11336 | - | 50 mbs Est. | Yes | Domestic |
| BBH02B | Borehole with submersible pump | 28.61318 | 26.11474 | 27.25 mbs | 60 - 70 mbs Est. | Yes | Domestic and Irrigation |
| Grot | Cave / Underground lake | 28.60554 | 26.09984 | - | - | Yes | - |
| Grot BH | Borehole | 28.60586 | 26.09969 | 23.5 mbs | - | No | - |

| Rietkol Project Hydrocensus - 2017 survey | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Locality** | **Groundwater locality type** | **X-Coordinate** | **Y-Coordinate** | **Static water level** | **Borehole depth** | **Water Sampled** | **Water Use** |
| Section 2.1 | Borehole with submersible pump | 28.59647 | 26.13216 | 22.14 mbs | - | Yes | Livestock watering, Domestic |
| Section 15.1 | Borehole | 28.61934 | 26.14734 | - | - | No | |
| Section 15.2 | Borehole | 28.61879 | 26.1494 | 50 mbs | - | Yes | Domestic and livestock |
| Section 15.3 | Borehole with submersible pump | 28.60956 | 26.14877 | 15.85 mbs | - | Yes | Not in use |
| Section 24.03 | Borehole with submersible pump | 28.62339 | 26.12728 | - | - | No | No - Borehole blocked |
| Section 24.1 | Borehole | - | - | 42 mbs | - | Yes | - |
| Section 24.10 | Dam | 28.6365 | 26.13503 | - | - | Yes | Irrigation |
| Section 24.11 | Borehole with submersible pump | 28.63667 | 26.13357 | - | - | Yes | Not in use |
| Section 24.12 | Borehole with submersible pump | 28.63686 | 26.13310 | - | - | Yes | Not in use |
| Section 24.13 | Borehole with submersible pump | 28.62518 | 26.1459 | 49 mbs | - | Yes | Domestic |
| Section 24.2 | Borehole | 28.62187 | 26.12685 | - | 108 mbs | No | Domestic and irrigation |
| Section 24.4 | Borehole with submersible pump | 28.62404 | 26.12729 | 52.3 mbs | - | No | Irrigation |
| Section 24.5 | Borehole with submersible pump | 28.63612 | 26.14266 | 74.5 mbs | 95 mbs | Yes | Irrigation, Domestic |
| Section 24.6 | Borehole with submersible pump | 28.63707 | 26.14389 | 92 mbs | - | Yes | Not in use |
| Section 24.7 | Borehole with submersible pump | 28.63584 | 26.14271 | 83.3 mbs | 202 mbs | Yes | Not in use - New borehole |
| Section 24.8 | Borehole with submersible pump | 28.63618 | 26.14373 | 59 mbs | - | No | No - Borehole not in use |
| Section 24.9 | Borehole with submersible pump | 28.63633 | 26.13684 | 59 mbs | 200 mbs | Yes | Not in use |
| Section 31.1 | Borehole with submersible pump | 28.60577 | 26.15631 | 54.65 mbs | 120 mbs | Yes | Irrigation |
| Section 31.2 | Borehole with submersible pump | 28.60762 | 26.15184 | 48.29 mbs | 68 mbs | Yes | Irrigation |
| Section 31.3 | Borehole with submersible pump | 28.60813 | 26.15101 | 47.98 mbs | 64 mbs | Yes | Livestock watering |
| Section 63.1 | Borehole with submersible pump | 28.59255 | 26.13624 | 37.40 mbs | - | Yes | - |
| Section 63.2 | Dam | 28.59051 | 26.13646 | - | - | Yes | Irrigation |
| Section 66.1 | Dam | 28.59271 | 26.14003 | - | - | Yes | Irrigation |
| Section 66.2 | Borehole with submersible pump | 28.59257 | 26.13995 | 92.41 mbs | - | No | - |
| Section 71.4 | Borehole with submersible pump | 28.60976 | 26.14612 | - | - | Yes | Domestic, Irrigation |
| Section 71.6 | Borehole with submersible pump | 28.59887 | 26.14014 | 36.55 mbs | - | Yes | Not in use |
| Section 72.5 | Borehole with submersible pump | 28.59616 | 26.14140 | 100 mbs | 160 mbs | Yes | Irrigation, Livestock watering |
| Dam237/1 | Dam | 28.60615 | 26.14506 | - | - | Yes | Irrigation |
| Res01 | Borehole with submersible pump | 28.6131 | 26.13716 | 8.85 mbs | - | Yes | Not in use |
| Res02 | Borehole with submersible pump | 28.61264 | 26.13763 | - | - | Yes | Irrigation, Livestock watering, Domestic |

| Rietkol Project Hydrocensus - 2018 survey | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Locality** | **Groundwater locality type** | **X-Coordinate** | **Y-Coordinate** | **Static water level** | **Borehole depth** | **Water Sampled** | **Water Use** |
| SK 158 | Borehole | 28.60494 | 26.11764 | - | - | No | Irrigation, Livestock, Domestic |
| SK 160 | Borehole with submersible pump | 28.60101 | 26.11829 | 41.25 mbs | 81.69 mbs | No | - |
| PF 276.1 | Borehole with submersible pump | 28.61821 | 26.12791 | - | Est. 220 mbs | Yes | Domestic |
| PF 276.2 | Borehole | 28.61858 | 26.12735 | 20.20 mbs | 75 mbs | Yes | - |
| KG 277 | Borehole with submersible pump | 28.61543 | 26.12689 | - | - | Yes | Irrigation, Livestock, Domestic |
| RF282.1 | Borehole | 28.61396 | 26.12995 | 46.84 mbs | 150 mbs | Yes | Not in use. Planned future domestic. |
| RF282.2 | Borehole | 28.61343 | 26.13052 | 8.5 mbs | - | No | Not in use. |

# Appendix B

*Water quality results*

aquatico Scientific (Pty). Ltd.

IN ENVIRONMENTAL MONITORING

DATA TABLE:

| | | | |
|---|---|---|---|
| PROJECT NAME | Groundwater Complete - Rietkol Hydrocencus | DATE COMPILED | 28 March 2018 |
| ASSESSMENT SET 1 | SANS 241-1:2015 Drinking Water Standard (SABS, 2015) | SELECTED DATE | 18 April 2016 |
| ASSESSMENT SET 2 | DWAF (1996) SAWQG Agricultural Use Irrigation TWQGR for Crop Yield | COMPILED BY | Werner Rossouw |

Value exceeds the assessment set 1

| VARIABLE | UNITS | ASSESSMENT 1 | ASSESSMENT 2 | MONITORING LOCALITIES | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 148PB1 | 153MT2 | 202Unex2 | 208BM | 213JW1 | 222PK | 226BKM | 229HDP | 235LP3 | 278JDP02 |
| pH @ 25°C | pH | 5.0/9.7 | 6.5/8.4 | 7.42 | 7.53 | 7.3 | 8 | 7.85 | 6.95 | 8.13 | 8.78 | 8.24 | 8.62 |
| Electrical conductivity (EC) @ 25°C | mS/m | 170 | 40 | 45.2 | 37.7 | 19.6 | 38.3 | 32.7 | 38.1 | 29.3 | 21.3 | 23.4 | 36.3 |
| Total dissolved solids (TDS) | mg/l | 1200 | - | 264 | 211 | 120 | 216 | 173 | 209 | 167 | 127 | 133 | 196 |
| Total hardness | mg CaCO3/l | - | - | 235 | 222 | 88 | 219 | 176 | 183 | 153 | 61 | 121 | 165 |
| Calcium (Ca) | mg/l | - | - | 48.7 | 42 | 17.6 | 35.8 | 35 | 36.3 | 35.2 | 11.6 | 18.9 | 29.1 |
| Magnesium (Mg) | mg/l | - | - | 27.6 | 28.4 | 10.7 | 31.5 | 21.5 | 22.5 | 15.8 | 7.84 | 18 | 22.4 |
| Sodium (Na) | mg/l | 200 | 70 | 9.48 | 5.37 | 4.57 | 6.68 | 2.71 | 13.7 | 10.5 | 25.8 | 8.58 | 18.8 |
| Potassium (K) | mg/l | - | - | 2.8 | 0.925 | 0.676 | 0.898 | 0.937 | 2 | 0.994 | 0.562 | 1.33 | 2.02 |
| Total alkalinity | mg CaCO3/l | - | - | 166 | 204 | 34.7 | 183 | 155 | 168 | 145 | 99.4 | 114 | 158 |
| Chloride (Cl) | mg/l | 300 | 100 | 14.9 | 2.33 | 7.5 | 6.26 | 1.84 | 20.8 | 7.74 | 1.93 | 4.2 | 13 |
| Sulphate ($SO_4$) | mg/l | 500 | - | 7.03 | 4.67 | 3.86 | 12 | 14.7 | 5.13 | 5.41 | 5.62 | 7.67 | 10.9 |
| Nitrate ($NO_3$) as N | mg/l | 11 | - | 11.7 | 0.734 | 12.1 | 2.61 | 0.305 | 1.28 | 0.606 | 3.01 | 1.09 | 0.615 |
| Ammonium ($NH_4$) as N | mg/l | 1.5 | - | <0.005 | 0.004 | <0.005 | <0.005 | <0.005 | 0.001 | <0.005 | <0.005 | <0.005 | <0.005 |
| Orthophosphate ($PO_4$) as P | mg/l | - | - | 0.055 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| Aluminium (Al) | mg/l | 0.3 | 5 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| Iron (Fe) | mg/l | 0.3 | 5 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 |
| Manganese (Mn) | mg/l | 0.1 | 0.02 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Chromium (Cr) | mg/l | 0.05 | - | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 |
| Copper (Cu) | mg/l | 2 | 0.2 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | 0.922 | <0.002 | <0.002 | <0.002 | <0.002 |
| Nickel (Ni) | mg/l | 0.07 | 0.2 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |

DATA TABLE:

| | | | |
|---|---|---|---|
| PROJECT NAME | Groundwater Complete - Rietkol Hydrocencus | DATE COMPILED | 28 March 2018 |
| ASSESSMENT SET 1 | SANS 241-1:2015 Drinking Water Standard (SABS, 2015) | SELECTED DATE | 06 February 2017 |
| ASSESSMENT SET 2 | DWAF (1996) SAWQG Agricultural Use Irrigation TWQGR for Crop Yield | COMPILED BY | Werner Rossouw |

Value exceeds the assessment set 1

| VARIABLE | UNITS | ASSESSMENT 1 | ASSESSMENT 2 | MONITORING LOCALITIES | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Res 02 | Section 15.2 | Section 2.1 | Section 24.13 | Section 24.5 | Section 63.1 | Section 71.4 | Section 72.5 |
| pH @ 25°C | pH | 5.0/9.7 | 6.5/8.4 | 7.92 | 7.73 | 8.29 | 7.94 | 7.9 | 8.5 | 8.31 | 8.32 |
| Electrical conductivity (EC) @ 25°C | mS/m | 170 | 40 | 44.7 | 29.1 | 29.8 | 38.2 | 41.4 | 43.2 | 33.8 | 34.7 |
| Total dissolved solids (TDS) | mg/l | 1200 | - | 265 | 182 | 182 | 219 | 246 | 261 | 205 | 209 |
| Total hardness | mg CaCO3/l | - | - | 206 | 143 | 153 | 179 | 191 | 187 | 172 | 159 |
| Calcium (Ca) | mg/l | - | - | 46.2 | 29.4 | 30.7 | 36.2 | 42.8 | 32.2 | 28.7 | 25.9 |
| Magnesium (Mg) | mg/l | - | - | 22.1 | 16.9 | 18.6 | 21.4 | 20.3 | 25.8 | 24.3 | 23 |
| Sodium (Na) | mg/l | 200 | 70 | 18.3 | 12.8 | 3.42 | 12.7 | 16.6 | 21.4 | 11.9 | 17 |
| Potassium (K) | mg/l | - | - | 2.4 | 3.48 | 1.38 | 4.07 | 3.66 | 2.11 | 1.41 | 1.49 |
| Total alkalinity | mg CaCO3/l | - | - | 221 | 184 | 140 | 214 | 213 | 181 | 180 | 168 |
| Chloride (Cl) | mg/l | 300 | 100 | 17 | 3.85 | 7.38 | 9.95 | 10.1 | 20.6 | 9.05 | 14 |
| Sulphate ($SO_4$) | mg/l | 500 | - | 19.9 | <0.141 | 0.402 | 1.25 | 20 | 44.5 | 18.5 | 22.2 |
| Nitrate ($NO_3$) as N | mg/l | 11 | - | 0.83 | 0.508 | 7.69 | 0.644 | 0.382 | 0.719 | 0.374 | 0.498 |
| Ammonium ($NH_4$) as N | mg/l | 1.5 | - | 0.099 | 0.078 | 0.047 | 0.045 | 0.047 | 0.101 | 0.049 | 0.059 |
| Orthophosphate ($PO_4$) as P | mg/l | - | - | 0.051 | 0.044 | 0.038 | 0.11 | 0.07 | 0.039 | 0.045 | 0.042 |
| Aluminium (Al) | mg/l | 0.3 | 5 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| Iron (Fe) | mg/l | 0.3 | 5 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 |
| Manganese (Mn) | mg/l | 0.1 | 0.02 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Chromium (Cr) | mg/l | 0.05 | - | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 |
| Copper (Cu) | mg/l | 2 | 0.2 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| Nickel (Ni) | mg/l | 0.07 | 0.2 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |

ENVIRONMENTAL MONITORING

DATA TABLE:

| | | | |
|---|---|---|---|
| PROJECT NAME | Groundwater Complete - Rietkol Hydrocencus | DATE COMPILED | 28 March 2018 |
| ASSESSMENT SET 1 | SANS 241-1:2015 Drinking Water Standard (SABS, 2015) | SELECTED DATE | 15 March 2018 |
| ASSESSMENT SET 2 | DWAF (1996) SAWQG Agricultural Use Irrigation TWQGR for Crop Yield | COMPILED BY | Werner Rossouw |

Value exceeds the assessment set 1

| VARIABLE | UNITS | ASSESSMENT 1 | ASSESSMENT 2 | MONITORING LOCALITIES | | | |
|---|---|---|---|---|---|---|---|
| | | | | Hoewe276 Locality 1 | Hoewe276 Locality 2 | Hoewe277 Locality 1 | RKLX |
| pH @ 25°C | pH | 5.0/9.7 | 6.5/8.4 | 8.18 | 7.12 | 8.07 | 7.74 |
| Electrical conductivity (EC) @ 25°C | mS/m | 170 | 40 | 32.1 | 29.6 | 33.1 | 65.1 |
| Total dissolved solids (TDS) | mg/l | 1200 | - | 200 | 177 | 202 | 416 |
| Total hardness | mg CaCO3/l | - | - | 177 | 152 | 171 | 232 |
| Calcium (Ca) | mg/l | - | - | 29.6 | 30.8 | 33 | 44.5 |
| Magnesium (Mg) | mg/l | - | - | 25 | 18.2 | 21.4 | 29.5 |
| Sodium (Na) | mg/l | 200 | 70 | 7.62 | 5.89 | 8.9 | 74.4 |
| Potassium (K) | mg/l | - | - | 2.14 | 1.5 | 1.87 | 4.56 |
| Total alkalinity | mg CaCO3/l | - | - | 169 | 120 | 156 | 233 |
| Chloride (Cl) | mg/l | 300 | 100 | 5.43 | 6.38 | 9.16 | 85 |
| Sulphate ($SO_4$) | mg/l | 500 | - | 23 | 6.93 | 9.78 | 33.7 |
| Nitrate ($NO_3$) as N | mg/l | 11 | - | 0.912 | 7.58 | 5.23 | 0.339 |
| Ammonium ($NH_4$) as N | mg/l | 1.5 | - | 0.192 | 0.192 | 0.036 | 0.137 |
| Orthophosphate ($PO_4$) as P | mg/l | - | - | <0.005 | <0.005 | <0.005 | <0.005 |
| Aluminium (Al) | mg/l | 0.3 | 5 | 0.01 | <0.002 | <0.002 | <0.002 |
| Iron (Fe) | mg/l | 0.3 | 5 | <0.004 | <0.004 | <0.004 | <0.004 |
| Manganese (Mn) | mg/l | 0.1 | 0.02 | <0.001 | 0.038 | <0.001 | 0.193 |
| Chromium (Cr) | mg/l | 0.05 | - | <0.003 | <0.003 | <0.003 | <0.003 |
| Copper (Cu) | mg/l | 2 | 0.2 | <0.002 | <0.002 | <0.002 | <0.002 |
| Nickel (Ni) | mg/l | 0.07 | 0.2 | <0.002 | <0.002 | <0.002 | <0.002 |

# Appendix C

*Locality assessment reports*

# DRINKING WATER LOCALITY ASSESSMENT REPORT

| LOCALITY | LOCALITY DESCRIPTION | DATE RANGE | WRC (1998) CLASSIFICATION | WATER QUALITY DESCRIPTION | |
|---|---|---|---|---|---|
| 148PB1 | | 2016-01-01 to 2018-04-30 | Class 2 - Marginal | pH | Neutral |
| | | | | Hardness | Hard |
|  | Applicable guideline/permit conditions | Exceedance of applicable guideline/permit conditions | | Salinity | Non Saline |
| | SANS 241-1:2015 Drinking Water Standard (SABS, 2015) | NO3-N | | Salts | Low |
| | DWAF (1996) SAWQG Agricultural Use Irrigation TWQGR for Crop Yield | EC | | Nutrients | High |
| | SAWQG Volume 5, Agricultural Use, Livestock Watering, Cattle | | | Macro Metals | Low |
| | Additional Comments | | | Micro Metals | Low |
| S0 E0 | | | | Trace Metals | Low |
| | | | | Turbidity (NTU) | - |
| | | | | TVC | - |
| | | | | E.coli | - |
| | | | | T.coli | - |

| LOCALITY | LOCALITY DESCRIPTION | DATE RANGE | WRC (1998) CLASSIFICATION | WATER QUALITY DESCRIPTION | |
|---|---|---|---|---|---|
| 153MT2 | | 2016-01-01 to 2018-04-30 | Class 1 - Good | pH | Neutral |
| | | | | Hardness | Hard |
|  | Applicable guideline/permit conditions | Exceedance of applicable guideline/permit conditions | | Salinity | Non Saline |
| | SANS 241-1:2015 Drinking Water Standard (SABS, 2015) | | | Salts | Low |
| | DWAF (1996) SAWQG Agricultural Use Irrigation TWQGR for Crop Yield | | | Nutrients | Low |
| | SAWQG Volume 5, Agricultural Use, Livestock Watering, Cattle | | | Macro Metals | Low |
| | Additional Comments | | | Micro Metals | Low |
| S0 E0 | | | | Trace Metals | Low |
| | | | | Turbidity (NTU) | - |
| | | | | TVC | - |
| | | | | E.coli | - |
| | | | | T.coli | - |

| LOCALITY | LOCALITY DESCRIPTION | DATE RANGE | WRC (1998) CLASSIFICATION | WATER QUALITY DESCRIPTION | |
|---|---|---|---|---|---|
| 202Unex2 | | 2016-01-01 to 2018-04-30 | Class 2 - Marginal | pH | Neutral |
| | | | | Hardness | Moderately soft |
|  | Applicable guideline/permit conditions | Exceedance of applicable guideline/permit conditions | | Salinity | Non Saline |
| | SANS 241-1:2015 Drinking Water Standard (SABS, 2015) | NO3-N | | Salts | Low |
| | DWAF (1996) SAWQG Agricultural Use Irrigation TWQGR for Crop Yield | | | Nutrients | High |
| | SAWQG Volume 5, Agricultural Use, Livestock Watering, Cattle | | | Macro Metals | Low |
| | Additional Comments | | | Micro Metals | Low |
| S0 E0 | | | | Trace Metals | Low |
| | | | | Turbidity (NTU) | - |
| | | | | TVC | - |
| | | | | E.coli | - |
| | | | | T.coli | - |

# DRINKING WATER LOCALITY ASSESSMENT REPORT

| LOCALITY | LOCALITY DESCRIPTION | DATE RANGE | WRC (1998) CLASSIFICATION | WATER QUALITY DESCRIPTION | |
|---|---|---|---|---|---|
| 208BM | | 2016-01-01 to 2018-04-30 | Class 1 - Good | pH | Neutral |
| | | | | Hardness | Hard |
|  | Applicable guideline/permit conditions | Exceedance of applicable guideline/permit conditions | | Salinity | Non Saline |
| | SANS 241-1:2015 Drinking Water Standard (SABS, 2015) | | | Salts | Low |
| | DWAF (1996) SAWQG Agricultural Use Irrigation TWQGR for Crop Yield | | | Nutrients | Low |
| | SAWQG Volume 5, Agricultural Use, Livestock Watering, Cattle | | | Macro Metals | Low |
| | Additional Comments | | | Micro Metals | Low |
| S0 E0 | | | | Trace Metals | Low |
| | | | | Turbidity (NTU) | - |
| | | | | TVC | - |
| | | | | E.coli | - |
| | | | | T.coli | - |

| LOCALITY | LOCALITY DESCRIPTION | DATE RANGE | WRC (1998) CLASSIFICATION | WATER QUALITY DESCRIPTION | |
|---|---|---|---|---|---|
| 213JW1 | | 2016-01-01 to 2018-04-30 | Class 0 - Ideal | pH | Neutral |
| | | | | Hardness | Moderately hard |
|  | Applicable guideline/permit conditions | Exceedance of applicable guideline/permit conditions | | Salinity | Non Saline |
| | SANS 241-1:2015 Drinking Water Standard (SABS, 2015) | | | Salts | Low |
| | DWAF (1996) SAWQG Agricultural Use Irrigation TWQGR for Crop Yield | | | Nutrients | Low |
| | SAWQG Volume 5, Agricultural Use, Livestock Watering, Cattle | | | Macro Metals | Low |
| | Additional Comments | | | Micro Metals | Low |
| S0 E0 | | | | Trace Metals | Low |
| | | | | Turbidity (NTU) | - |
| | | | | TVC | - |
| | | | | E.coli | - |
| | | | | T.coli | - |

| LOCALITY | LOCALITY DESCRIPTION | DATE RANGE | WRC (1998) CLASSIFICATION | WATER QUALITY DESCRIPTION | |
|---|---|---|---|---|---|
| 222PK | | 2016-01-01 to 2018-04-30 | Class 0 - Ideal | pH | Neutral |
| | | | | Hardness | Moderately hard |
|  | Applicable guideline/permit conditions | Exceedance of applicable guideline/permit conditions | | Salinity | Non Saline |
| | SANS 241-1:2015 Drinking Water Standard (SABS, 2015) | | | Salts | Low |
| | DWAF (1996) SAWQG Agricultural Use Irrigation TWQGR for Crop Yield | Cu | | Nutrients | Low |
| | SAWQG Volume 5, Agricultural Use, Livestock Watering, Cattle | Cu | | Macro Metals | Low |
| | Additional Comments | | | Micro Metals | Low |
| S0 E0 | | | | Trace Metals | Medium |
| | | | | Turbidity (NTU) | - |
| | | | | TVC | - |
| | | | | E.coli | - |
| | | | | T.coli | - |

# DRINKING WATER LOCALITY ASSESSMENT REPORT

| LOCALITY | LOCALITY DESCRIPTION | DATE RANGE | WRC (1998) CLASSIFICATION | WATER QUALITY DESCRIPTION | |
|---|---|---|---|---|---|
| 226BKM | | 2016-01-01 to 2018-04-30 | Class 0 - Ideal | pH | Neutral |
| | | | | Hardness | Moderately hard |
|  | Applicable guideline/permit conditions | Exceedance of applicable guideline/permit conditions | | Salinity | Non Saline |
| | SANS 241-1:2015 Drinking Water Standard (SABS, 2015) | | | Salts | Low |
| | DWAF (1996) SAWQG Agricultural Use Irrigation TWQGR for Crop Yield | | | Nutrients | Low |
| | SAWQG Volume 5, Agricultural Use, Livestock Watering, Cattle | | | Macro Metals | Low |
| | Additional Comments | | | Micro Metals | Low |
| | | | | Trace Metals | Low |
| | | | | Turbidity (NTU) | - |
| | | | | TVC | - |
| | | | | E.coli | - |
| S0 E0 | | | | T.coli | - |

| LOCALITY | LOCALITY DESCRIPTION | DATE RANGE | WRC (1998) CLASSIFICATION | WATER QUALITY DESCRIPTION | |
|---|---|---|---|---|---|
| 229HDP | | 2016-01-01 to 2018-04-30 | Class 0 - Ideal | pH | Alkaline/Basic |
| | | | | Hardness | Moderately soft |
|  | Applicable guideline/permit conditions | Exceedance of applicable guideline/permit conditions | | Salinity | Non Saline |
| | SANS 241-1:2015 Drinking Water Standard (SABS, 2015) | | | Salts | Low |
| | DWAF (1996) SAWQG Agricultural Use Irrigation TWQGR for Crop Yield | pH | | Nutrients | Low |
| | SAWQG Volume 5, Agricultural Use, Livestock Watering, Cattle | | | Macro Metals | Low |
| | Additional Comments | | | Micro Metals | Low |
| | | | | Trace Metals | Low |
| | | | | Turbidity (NTU) | - |
| | | | | TVC | - |
| | | | | E.coli | - |
| S0 E0 | | | | T.coli | - |

| LOCALITY | LOCALITY DESCRIPTION | DATE RANGE | WRC (1998) CLASSIFICATION | WATER QUALITY DESCRIPTION | |
|---|---|---|---|---|---|
| 235LP3 | | 2016-01-01 to 2018-04-30 | Class 0 - Ideal | pH | Neutral |
| | | | | Hardness | Slightly Hard |
|  | Applicable guideline/permit conditions | Exceedance of applicable guideline/permit conditions | | Salinity | Non Saline |
| | SANS 241-1:2015 Drinking Water Standard (SABS, 2015) | | | Salts | Low |
| | DWAF (1996) SAWQG Agricultural Use Irrigation TWQGR for Crop Yield | | | Nutrients | Low |
| | SAWQG Volume 5, Agricultural Use, Livestock Watering, Cattle | | | Macro Metals | Low |
| | Additional Comments | | | Micro Metals | Low |
| | | | | Trace Metals | Low |
| | | | | Turbidity (NTU) | - |
| | | | | TVC | - |
| | | | | E.coli | - |
| S0 E0 | | | | T.coli | - |

# DRINKING WATER LOCALITY ASSESSMENT REPORT

| LOCALITY | LOCALITY DESCRIPTION | DATE RANGE | WRC (1998) CLASSIFICATION | WATER QUALITY DESCRIPTION | |
|---|---|---|---|---|---|
| 278JDP02 | | 2016-01-01 to 2018-04-30 | Class 0 - Ideal | pH | Alkaline/Basic |
| | | | | Hardness | Moderately hard |
|  | Applicable guideline/permit conditions | Exceedance of applicable guideline/permit conditions | | Salinity | Non Saline |
| | SANS 241-1:2015 Drinking Water Standard (SABS, 2015) | | | Salts | Low |
| | DWAF (1996) SAWQG Agricultural Use Irrigation TWQGR for Crop Yield | pH | | Nutrients | Low |
| | SAWQG Volume 5, Agricultural Use, Livestock Watering, Cattle | | | Macro Metals | Low |
| | Additional Comments | | | Micro Metals | Low |
| S0 E0 | | | | Trace Metals | Low |
| | | | | Turbidity (NTU) | - |
| | | | | TVC | - |
| | | | | E.coli | - |
| | | | | T.coli | - |

| LOCALITY | LOCALITY DESCRIPTION | DATE RANGE | WRC (1998) CLASSIFICATION | WATER QUALITY DESCRIPTION | |
|---|---|---|---|---|---|
| Hoewe276 Locality 1 | | 2016-01-01 to 2018-04-30 | Class 0 - Ideal | pH | Neutral |
| | | | | Hardness | Moderately hard |
|  | Applicable guideline/permit conditions | Exceedance of applicable guideline/permit conditions | | Salinity | Non Saline |
| | SANS 241-1:2015 Drinking Water Standard (SABS, 2015) | | | Salts | Low |
| | DWAF (1996) SAWQG Agricultural Use Irrigation TWQGR for Crop Yield | | | Nutrients | Low |
| | SAWQG Volume 5, Agricultural Use, Livestock Watering, Cattle | | | Macro Metals | Low |
| | Additional Comments | | | Micro Metals | Low |
| S0 E0 | | | | Trace Metals | Low |
| | | | | Turbidity (NTU) | - |
| | | | | TVC | - |
| | | | | E.coli | - |
| | | | | T.coli | - |

| LOCALITY | LOCALITY DESCRIPTION | DATE RANGE | WRC (1998) CLASSIFICATION | WATER QUALITY DESCRIPTION | |
|---|---|---|---|---|---|
| Hoewe276 Locality 2 | | 2016-01-01 to 2018-04-30 | Class 1 - Good | pH | Neutral |
| | | | | Hardness | Moderately hard |
|  | Applicable guideline/permit conditions | Exceedance of applicable guideline/permit conditions | | Salinity | Non Saline |
| | SANS 241-1:2015 Drinking Water Standard (SABS, 2015) | | | Salts | Low |
| | DWAF (1996) SAWQG Agricultural Use Irrigation TWQGR for Crop Yield | Mn | | Nutrients | Medium |
| | SAWQG Volume 5, Agricultural Use, Livestock Watering, Cattle | | | Macro Metals | Low |
| | Additional Comments | | | Micro Metals | Low |
| S0 E0 | | | | Trace Metals | Low |
| | | | | Turbidity (NTU) | - |
| | | | | TVC | - |
| | | | | E.coli | - |
| | | | | T.coli | - |

# DRINKING WATER LOCALITY ASSESSMENT REPORT

| LOCALITY | LOCALITY DESCRIPTION | DATE RANGE | WRC (1998) CLASSIFICATION | WATER QUALITY DESCRIPTION | |
|---|---|---|---|---|---|
| Hoewe277 Locality 1 | | 2016-01-01 to 2018-04-30 | Class 0 - Ideal | pH | Neutral |
| | | | | Hardness | Moderately hard |
|  | Applicable guideline/permit conditions | Exceedance of applicable guideline/permit conditions | | Salinity | Non Saline |
| | SANS 241-1:2015 Drinking Water Standard (SABS, 2015) | | | Salts | Low |
| | DWAF (1996) SAWQG Agricultural Use Irrigation TWQGR for Crop Yield | | | Nutrients | Low |
| | SAWQG Volume 5, Agricultural Use, Livestock Watering, Cattle | | | Macro Metals | Low |
| | Additional Comments | | | Micro Metals | Low |
| S0 E0 | | | | Trace Metals | Low |
| | | | | Turbidity (NTU) | - |
| | | | | TVC | - |
| | | | | E.coli | - |
| | | | | T.coli | - |

| LOCALITY | LOCALITY DESCRIPTION | DATE RANGE | WRC (1998) CLASSIFICATION | WATER QUALITY DESCRIPTION | |
|---|---|---|---|---|---|
| Res 02 | | 2016-01-01 to 2018-04-30 | Class 1 - Good | pH | Neutral |
| | | | | Hardness | Hard |
|  | Applicable guideline/permit conditions | Exceedance of applicable guideline/permit conditions | | Salinity | Non Saline |
| | SANS 241-1:2015 Drinking Water Standard (SABS, 2015) | | | Salts | Low |
| | DWAF (1996) SAWQG Agricultural Use Irrigation TWQGR for Crop Yield | EC | | Nutrients | Low |
| | SAWQG Volume 5, Agricultural Use, Livestock Watering, Cattle | | | Macro Metals | Low |
| | Additional Comments | | | Micro Metals | Low |
| S0 E0 | | | | Trace Metals | Low |
| | | | | Turbidity (NTU) | - |
| | | | | TVC | - |
| | | | | E.coli | - |
| | | | | T.coli | - |

| LOCALITY | LOCALITY DESCRIPTION | DATE RANGE | WRC (1998) CLASSIFICATION | WATER QUALITY DESCRIPTION | |
|---|---|---|---|---|---|
| RKLX | | 2016-01-01 to 2018-04-30 | Class 1 - Good | pH | Neutral |
| | | | | Hardness | Hard |
|  | Applicable guideline/permit conditions | Exceedance of applicable guideline/permit conditions | | Salinity | Non Saline |
| | SANS 241-1:2015 Drinking Water Standard (SABS, 2015) | Mn | | Salts | Low |
| | DWAF (1996) SAWQG Agricultural Use Irrigation TWQGR for Crop Yield | EC,Na,Mn | | Nutrients | Low |
| | SAWQG Volume 5, Agricultural Use, Livestock Watering, Cattle | | | Macro Metals | Low |
| | Additional Comments | | | Micro Metals | Medium |
| S0 E0 | | | | Trace Metals | Low |
| | | | | Turbidity (NTU) | - |
| | | | | TVC | - |
| | | | | E.coli | - |
| | | | | T.coli | - |

# DRINKING WATER LOCALITY ASSESSMENT REPORT

| LOCALITY | LOCALITY DESCRIPTION | DATE RANGE | WRC (1998) CLASSIFICATION | WATER QUALITY DESCRIPTION | |
|---|---|---|---|---|---|
| Section 15.2 | | 2016-01-01 to 2018-04-30 | Class 0 - Ideal | pH | Neutral |
| | | | | Hardness | Slightly Hard |
|  | Applicable guideline/permit conditions | Exceedance of applicable guideline/permit conditions | | Salinity | Non Saline |
| | SANS 241-1:2015 Drinking Water Standard (SABS, 2015) | | | Salts | Low |
| | DWAF (1996) SAWQG Agricultural Use Irrigation TWQGR for Crop Yield | | | Nutrients | Low |
| | SAWQG Volume 5, Agricultural Use, Livestock Watering, Cattle | | | Macro Metals | Low |
| | Additional Comments | | | Micro Metals | Low |
| | | | | Trace Metals | Low |
| | | | | Turbidity (NTU) | - |
| | | | | TVC | - |
| | | | | E.coli | - |
| S0 E0 | | | | T.coli | - |

| LOCALITY | LOCALITY DESCRIPTION | DATE RANGE | WRC (1998) CLASSIFICATION | WATER QUALITY DESCRIPTION | |
|---|---|---|---|---|---|
| Section 2.1 | | 2016-01-01 to 2018-04-30 | Class 1 - Good | pH | Neutral |
| | | | | Hardness | Moderately hard |
|  | Applicable guideline/permit conditions | Exceedance of applicable guideline/permit conditions | | Salinity | Non Saline |
| | SANS 241-1:2015 Drinking Water Standard (SABS, 2015) | | | Salts | Low |
| | DWAF (1996) SAWQG Agricultural Use Irrigation TWQGR for Crop Yield | | | Nutrients | Medium |
| | SAWQG Volume 5, Agricultural Use, Livestock Watering, Cattle | | | Macro Metals | Low |
| | Additional Comments | | | Micro Metals | Low |
| | | | | Trace Metals | Low |
| | | | | Turbidity (NTU) | - |
| | | | | TVC | - |
| | | | | E.coli | - |
| S0 E0 | | | | T.coli | - |

| LOCALITY | LOCALITY DESCRIPTION | DATE RANGE | WRC (1998) CLASSIFICATION | WATER QUALITY DESCRIPTION | |
|---|---|---|---|---|---|
| Section 24.13 | | 2016-01-01 to 2018-04-30 | Class 0 - Ideal | pH | Neutral |
| | | | | Hardness | Moderately hard |
|  | Applicable guideline/permit conditions | Exceedance of applicable guideline/permit conditions | | Salinity | Non Saline |
| | SANS 241-1:2015 Drinking Water Standard (SABS, 2015) | | | Salts | Low |
| | DWAF (1996) SAWQG Agricultural Use Irrigation TWQGR for Crop Yield | | | Nutrients | Low |
| | SAWQG Volume 5, Agricultural Use, Livestock Watering, Cattle | | | Macro Metals | Low |
| | Additional Comments | | | Micro Metals | Low |
| | | | | Trace Metals | Low |
| | | | | Turbidity (NTU) | - |
| | | | | TVC | - |
| | | | | E.coli | - |
| S0 E0 | | | | T.coli | - |

# DRINKING WATER LOCALITY ASSESSMENT REPORT

| LOCALITY | LOCALITY DESCRIPTION | DATE RANGE | WRC (1998) CLASSIFICATION | WATER QUALITY DESCRIPTION | |
|---|---|---|---|---|---|
| Section 24.5 | | 2016-01-01 to 2018-04-30 | Class 0 - Ideal | pH | Neutral |
| | | | | Hardness | Moderately hard |
|  | Applicable guideline/permit conditions | Exceedance of applicable guideline/permit conditions | | Salinity | Non Saline |
| | SANS 241-1:2015 Drinking Water Standard (SABS, 2015) | | | Salts | Low |
| | DWAF (1996) SAWQG Agricultural Use Irrigation TWQGR for Crop Yield | EC | | Nutrients | Low |
| | SAWQG Volume 5, Agricultural Use, Livestock Watering, Cattle | | | Macro Metals | Low |
| | Additional Comments | | | Micro Metals | Low |
| S0 E0 | | | | Trace Metals | Low |
| | | | | Turbidity (NTU) | - |
| | | | | TVC | - |
| | | | | E.coli | - |
| | | | | T.coli | - |

| LOCALITY | LOCALITY DESCRIPTION | DATE RANGE | WRC (1998) CLASSIFICATION | WATER QUALITY DESCRIPTION | |
|---|---|---|---|---|---|
| Section 63.1 | | 2016-01-01 to 2018-04-30 | Class 0 - Ideal | pH | Alkaline/Basic |
| | | | | Hardness | Moderately hard |
|  | Applicable guideline/permit conditions | Exceedance of applicable guideline/permit conditions | | Salinity | Non Saline |
| | SANS 241-1:2015 Drinking Water Standard (SABS, 2015) | | | Salts | Low |
| | DWAF (1996) SAWQG Agricultural Use Irrigation TWQGR for Crop Yield | pH,EC | | Nutrients | Low |
| | SAWQG Volume 5, Agricultural Use, Livestock Watering, Cattle | | | Macro Metals | Low |
| | Additional Comments | | | Micro Metals | Low |
| S0 E0 | | | | Trace Metals | Low |
| | | | | Turbidity (NTU) | - |
| | | | | TVC | - |
| | | | | E.coli | - |
| | | | | T.coli | - |

| LOCALITY | LOCALITY DESCRIPTION | DATE RANGE | WRC (1998) CLASSIFICATION | WATER QUALITY DESCRIPTION | |
|---|---|---|---|---|---|
| Section 71.4 | | 2016-01-01 to 2018-04-30 | Class 0 - Ideal | pH | Neutral |
| | | | | Hardness | Moderately hard |
|  | Applicable guideline/permit conditions | Exceedance of applicable guideline/permit conditions | | Salinity | Non Saline |
| | SANS 241-1:2015 Drinking Water Standard (SABS, 2015) | | | Salts | Low |
| | DWAF (1996) SAWQG Agricultural Use Irrigation TWQGR for Crop Yield | | | Nutrients | Low |
| | SAWQG Volume 5, Agricultural Use, Livestock Watering, Cattle | | | Macro Metals | Low |
| | Additional Comments | | | Micro Metals | Low |
| S0 E0 | | | | Trace Metals | Low |
| | | | | Turbidity (NTU) | - |
| | | | | TVC | - |
| | | | | E.coli | - |
| | | | | T.coli | - |

| DRINKING WATER LOCALITY ASSESSMENT REPORT | | | | | |
|---|---|---|---|---|---|
| LOCALITY | LOCALITY DESCRIPTION | DATE RANGE | WRC (1998) CLASSIFICATION | WATER QUALITY DESCRIPTION | |
| Section 72.5 | | 2016-01-01 to 2018-04-30 | Class 0 - Ideal | pH | Neutral |
| | | | | Hardness | Moderately hard |
|  | Applicable guideline/permit conditions | Exceedance of applicable guideline/permit conditions | | Salinity | Non Saline |
| | SANS 241-1:2015 Drinking Water Standard (SABS, 2015) | | | Salts | Low |
| | DWAF (1996) SAWQG Agricultural Use Irrigation TWQGR for Crop Yield | | | Nutrients | Low |
| | SAWQG Volume 5, Agricultural Use, Livestock Watering, Cattle | | | Macro Metals | Low |
| | Additional Comments | | | Micro Metals | Low |
| S0 E0 | | | | Trace Metals | Low |
| | | | | Turbidity (NTU) | - |
| | | | | TVC | - |
| | | | | E.coli | - |
| | | | | T.coli | - |

# Appendix D

*Hydrocensus information forms*

leaders in environmental monitoring
address: 89 regency drive, R21 corporate park, centurion
postal: p.o. box 905008, garsfontein, 0042
web: www.aquatico.co.za
office: 012 450 3800 • fax: 012 450 3851

| PROJECT DETAILS | Rietkol Project |
|---|---|

| Personal Details | | | | |
|---|---|---|---|---|
| **Physical address** | **MODDER EAST ORCHARDS AH, HOLDING 143** | | | No Profile Picture Taken |
| **Postal address** | **PO BOX 342, SUNDRA, 2200** | | | |
| **District/Town** | **DELMAS, 2210** | | | |
| **Owner** | **Cheryl Middleditch** | | | |
| **Contact person** | **Cheryl Middleditch** | | | |
| **Cell** | **082 564 5044** | **Tel** | **0136679661** | |
| **Fax** | - | | | |
| **E-mail** | cheryl@eloffbelting.co.za | | | *Signature* |

**Locality Map**

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | 143CM1 | | | | | | | |
| **Coordinates** | X-coordinate | 28.59538 | | Y-coordinate | 26.12344 | | Z-coordinate | 1581 | | | | |
| **Locality type** | Borehole | | | **Date drilled** | Unknown | | | | | | | |
| **Borehole depth** | - | | **Borehole diameter** | Unknown | | **Collar height** | - | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | Yes | - | No | - | | | | |
| **Reservoir & size** | 5000 l JOJO Tank | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | - | Livestock watering | - | Domestic | X | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Werner Rossouw** | **Date sampled** | **11/04/2016** |
| **Sample type** | **Inorganic** | **Static water level** | **-** |
| **Short locality description: Borehole near main house aviary, next to big tree and swimming pool.** | | | |
| | | | |
| **Comments: Sample taken from storage tank. No depth could be gained either due to a blockage by the installed pump or that the hole was dry at 20.30 m** | | | |

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | 143CM2 | | | | | | | |
| **Coordinates** | X-coordinate | 28.59421 | | Y-coordinate | 26.12361 | | Z-coordinate | 1584 | | | | |
| **Locality type** | Borehole | | | **Date drilled** | Unknown | | | | | | | |
| **Borehole depth** | 52 m | | **Borehole diameter** | Unknown | | **Collar height** | - | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | Yes | - | No | - | | | | |
| **Reservoir & size** | None | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | - | No | X | **Other** | - | | |
| **Current and future use** | Irrigation | - | Livestock watering | - | Domestic | - | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Werner Rossouw** | **Date sampled** | **11/04/2016** |
| **Sample type** | **-** | **Static water level** | **21.50 m** |
| **Short locality description: Borehole next to workers houses.** | | | |
| | | | |
| **Comments: Borehole not in use, no space to fit bailer to get water sample.** | | | |

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | 143CM3 | | | | | | | |
| **Coordinates** | X-coordinate | 28.59655 | | Y-coordinate | 26.12273 | | Z-coordinate | 1586 | | | | |
| **Locality type** | Borehole | | | **Date drilled** | Unknown | | | | | | | |
| **Borehole depth** | - | | **Borehole diameter** | Unknown | | **Collar height** | - | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | Yes | - | No | - | | | | |
| **Reservoir & size** | - | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | - | No | X | **Other** | - | | |
| **Current and future use** | Irrigation | - | Livestock watering | - | Domestic | - | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Werner Rossouw** | **Date sampled** | **11/04/2016** |
| **Sample type** | **-** | **Static water level** | **-** |
| **Short locality description: Old big borehole in open field away from main house area. Sunken below ground surface.** | | | |
| | | | |
| **Comments: Big old pump and pipes installed, not working.** | | | |

leaders in environmental monitoring
address: 89 regency drive, R21 corporate park, centurion
postal: p.o. box 905008, garsfontein, 0042
web: www.aquatico.co.za
office: 012 450 3800 • fax: 012 450 3851

| PROJECT DETAILS | Rietkol Project |
|---|---|

| Personal Details | | | | |
|---|---|---|---|---|
| **Physical address** | **MODDER EAST ORCHARDS AH, HOLDING 144 and 145** | | | No Profile Picture Taken |
| **Postal address** | **PO BOX 1137, DELMAS 2211** | | | |
| **District/Town** | **DELMAS, 2210** | | | |
| **Owner** | **MBFI** | | | |
| **Contact person** | **Steven** | | | |
| **Cell** | **079 770 2554** | **Tel** | **082 238 0080** | |
| **Fax** | - | | | |
| **E-mail** | steven@mbfi.co.za | | | *Signature* |

**Locality Map**

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | 145MBFI1 | | | | | | | |
| **Coordinates** | X-coordinate | 28.59742 | | Y-coordinate | 26.12650 | | Z-coordinate | 1580 | | | | |
| **Locality type** | Borehole | | | **Date drilled** | Unknown | | | | | | | |
| **Borehole depth** | - | | **Borehole diameter** | - | | **Collar height** | - | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | Yes | - | No | X | | | | |
| **Reservoir & size** | - | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | X | Livestock watering | - | Domestic | - | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Carl** | **Date sampled** | **01/04/2016** |
| **Sample type** | **Inorganic** | **Static water level** | **-** |
| **Short locality description: Borehole inside concrete housing, inside crop field.** | | | |
| | | | |
| **Comments: No access to borehole due to a concrete slab.** | | | |

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | 144MBFI2 | | | | | | | |
| **Coordinates** | X-coordinate | 28.59564 | | Y-coordinate | 26.12549 | | Z-coordinate | 1580 | | | | |
| **Locality type** | Borehole | | | **Date drilled** | Unknown | | | | | | | |
| **Borehole depth** | ± 70 m | | **Borehole diameter** | - | | **Collar height** | - | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | Yes | - | No | X | | | | |
| **Reservoir & size** | - | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | X | Livestock watering | - | Domestic | - | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Carl** | **Date sampled** | **01/04/2016** |
| **Sample type** | **Inorganic** | **Static water level** | **-** |
| **Short locality description: Borehole inside concrete housing.** | | | |
| | | | |
| **Comments: No access to borehole due to a concrete slab.** | | | |

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | | 144MBFI3 | | | | | | |
| **Coordinates** | X-coordinate | 28.59414 | | Y-coordinate | 26.12514 | | Z-coordinate | 1580 | | | | |
| **Locality type** | Borehole | | | **Date drilled** | | Unknown | | | | | | |
| **Borehole depth** | ± 70 m | | **Borehole diameter** | - | | **Collar height** | - | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | | Yes | - | No | X | | | |
| **Reservoir & size** | - | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | X | Livestock watering | - | Domestic | - | **Other** | - |
| **Water used in reverse osmosis for labs and drinking water.** | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Carl** | **Date sampled** | **01/04/2016** |
| **Sample type** | **Inorganic** | **Static water level** | **-** |
| **Short locality description: Borehole inside concrete housing.** | | | |
| | | | |
| **Comments: No access to borehole due to a concrete slab.** | | | |

leaders in environmental monitoring
address: 89 regency drive, R21 corporate park, centurion
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web: www.aquatico.co.za
office: 012 450 3800 • fax: 012 450 3851

| PROJECT DETAILS | Rietkol Project |
|---|---|

| Personal Details | | | | |
|---|---|---|---|---|
| **Physical address** | **MODDER EAST ORCHARDS AH, HOLDING 148** | | | No Profile Picture Taken |
| **Postal address** | **PO BOX 1443 NIGEL** | | | |
| **District/Town** | **DELMAS, 2210** | | | |
| **Owner** | **PJ Booysen** | | | |
| **Contact person** | **PJ Booysen** | | | |
| **Cell** | **073 046 0189** | **Tel** | **-** | |
| **Fax** | - | | | |
| **E-mail** | - | | | *Signature* |

**Locality Map**

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | 148PB1 | | | | | | | |
| **Coordinates** | X-coordinate | 28.60159 | | Y-coordinate | 26.12526 | | Z-coordinate | 1600 | | | | |
| **Locality type** | Borehole | | | **Date drilled** | Unknown | | | | | | | |
| **Borehole depth** | - | | **Borehole diameter** | 25 cm | | **Collar height** | 0 cm | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | Yes | - | No | - | | | | |
| **Reservoir & size** | None | | | | | | | | | | | |
| **Liter** | Submersible | - | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | - | No | X | **Other** | - | | |
| **Current and future use** | Irrigation | - | Livestock watering | - | Domestic | - | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | | |
|---|---|---|---|---|
| **Sampler** | **Deon** | **Date sampled** | **01/04/2016** | **No Locality Picture Available** |
| **Sample type** | **Inorganic** | **Static water level** | **37.52 m** | |
| **Short locality description: Borehole next to house near the entrance** | | | | |
| | | | | |
| **Comments: Borehole Is not in use as it is too shallow to fit pump.** | | | | |

leaders in environmental monitoring
address: 89 regency drive, R21 corporate park, centurion
postal: p.o. box 905008, garsfontein, 0042
web: www.aquatico.co.za
office: 012 450 3800 • fax: 012 450 3851

| PROJECT DETAILS | Rietkol Project |
|---|---|

| Personal Details | | | | |
|---|---|---|---|---|
| **Physical address** | **MODDER EAST ORCHARDS AH, HOLDING 150** | | | No Profile Picture Taken |
| **Postal address** | **PO BOX 263, DELMAS, 2210** | | | |
| **District/Town** | **DELMAS, 2210** | | | |
| **Owner** | **Mike Thorn** | | | |
| **Contact person** | **Douglas Cobbledick** | | | |
| **Cell** | **083 251 2844** | **Tel** | **-** | |
| **Fax** | - | | | |
| **E-mail** | mcvt@webafrica.org.za | | | *Signature* |

**Locality Map**

| Source Information | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | | **Locality number** | 153MT1 | | | | | | | | | |
| **Coordinates** | X-coordinate | 28.59882 | | | Y-coordinate | 26.12195 | | | Z-coordinate | 1590 | | | | | |
| **Locality type** | Monitoring Borehole | | | | **Date drilled** | Unknown | | | | | | | | | |
| **Borehole depth** | 150 m | | | | **Borehole diameter** | 18 cm | | | **Collar height** | 21 cm | | | | | |
| **Estimated yield per hour** | N/A | | | | **Test certificate** | Yes | - | No | X | | | | | | |
| **Reservoir & size** | N/A | | | | | | | | | | | | | | |
| **Liter** | Submersible | - | Mono pump | - | Windmill | - | Hand pump | - | Other | Monitoring | | | | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | - | No | X | **Other** | - | | |
| **Current and future use** | Irrigation | - | Livestock watering | - | Domestic | - | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | | |
|---|---|---|---|---|
| **Sampler** | **Anton Botha** | **Date sampled** | **11/04/2016** | **No Locality Picture Available** |
| **Sample type** | **Inorganic** | **Static water level** | **-** | |
| **Short locality description: Monitoring borehole.** | | | | |
| | | | | |
| **Comments: Sampled directly from borehole.** | | | | |

| Source Information | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | | **Locality number** | 153MT2 | | | | | | | | | |
| **Coordinates** | X-coordinate | 26.12198 | | | Y-coordinate | 28.59918 | | | Z-coordinate | 1590 | | | | | |
| **Locality type** | Borehole | | | | **Date drilled** | Unknown | | | | | | | | | |
| **Borehole depth** | - | | | | **Borehole diameter** | - | | | **Collar height** | - | | | | | |
| **Estimated yield per hour** | - | | | | **Test certificate** | Yes | - | No | X | | | | | | |
| **Reservoir & size** | - | | | | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | | | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | X | Livestock watering | - | Domestic | X | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | | |
|---|---|---|---|---|
| **Sampler** | **Anton Botha** | **Date sampled** | **11/04/2016** | **No Locality Picture Available** |
| **Sample type** | **Inorganic** | **Static water level** | **-** | |
| **Short locality description: Borehole at Workshop** | | | | |
| | | | | |
| **Comments: Sampled at tap. No access to water level due to installed pump.** | | | | |

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office: 012 450 3800 • fax: 012 450 3851

| PROJECT DETAILS | Rietkol Project |
|---|---|

| Personal Details | | | | |
|---|---|---|---|---|
| **Physical address** | **33 WOODLANDS AVENUE, HURLINGHAM MANOR, 33 WOODLANDS AVENUE, HURLINGHAM MANOR, SANDTON, 2196** | | | No Profile Picture Taken |
| **Postal address** | **PO BOX 2145, RANDBURG, 2125** | | | |
| **District/Town** | **SANDTON, 2196** | | | |
| **Owner** | **Annemarie Buckle** | | | |
| **Contact person** | **Annemarie Buckle** | | | |
| **Cell** | **082 886 4000** | **Tel** | **011 326 1000** | |
| **Fax** | - | | | |
| **E-mail** | amibuckle@gmail.com | | | *Signature* |

**Locality Map**

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | | 159AMB | | | | | | |
| **Coordinates** | X-coordinate | 28.60471 | | Y-coordinate | 26.11863 | | Z-coordinate | 1591 | | | | |
| **Locality type** | Borehole | | | **Date drilled** | | Unknown | | | | | | |
| **Borehole depth** | - | | **Borehole diameter** | - | | **Collar height** | - | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | | Yes | - | No | - | | | |
| **Reservoir & size** | 5000 l Cement tank | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | - | No | X | **Other** | - | | |
| **Current and future use** | Irrigation | - | Livestock watering | - | Domestic | - | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Anton Botha** | **Date sampled** | **11/04/2016** |
| **Sample type** | **Inorganic** | **Static water level** | **-** |
| **Short locality description: Vacant house borehole** | | | |
| | | | |
| **Comments: No electricity or borehole access.** | | | |

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| PROJECT DETAILS | Rietkol Project |
|---|---|

| Personal Details | | | | |
|---|---|---|---|---|
| **Physical address** | **MODDER EAST ORCHARDS AH, HOLDING 171** | | | No Profile Picture Taken |
| **Postal address** | **PO BOX 13156, NORTHMEAD, BENONI, 1511** | | | |
| **District/Town** | **-** | | | |
| **Owner** | **Hans Von Ronge** | | | |
| **Contact person** | **Hans Von Ronge** | | | |
| **Cell** | **078 312 7285** | **Tel** | **-** | |
| **Fax** | - | | | |
| **E-mail** | - | | | *Signature* |

**Locality Map**

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | 171HVR | | | | | | | |
| **Coordinates** | X-coordinate | 28.60590 | | Y-coordinate | 26.11032 | | Z-coordinate | 1575 | | | | |
| **Locality type** | Borehole | | | **Date drilled** | ± 40 years old | | | | | | | |
| **Borehole depth** | 32 m | | **Borehole diameter** | 18 cm | | **Collar height** | 4 cm | | | | | |
| **Estimated yield per hour** | 10 500 l/h | | | **Test certificate** | Yes | - | No | X | | | | |
| **Reservoir & size** | 5000 l | | | | | | | | | | | |
| **Liter** | Submersible | - | Mono pump | X | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | X | Livestock watering | X | Domestic | X | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | | |
|---|---|---|---|---|
| **Sampler** | **Machiel** | **Date sampled** | **01/04/2016** | **No Locality Picture Available** |
| **Sample type** | **Inorganic** | **Static water level** | **± 12 m** | |
| **Short locality description: Borehole next to garage in owner's yard.** | | | | |
| | | | | |
| **Comments: Water is clear. Household uses about 8000 liters of water per week.** | | | | |

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| PROJECT DETAILS | Rietkol Project |
|---|---|

| Personal Details | | | | |
|---|---|---|---|---|
| **Physical address** | **MODDER EAST ORCHARDS AH, HOLDING 145** | | | No Profile Picture Taken |
| **Postal address** | **POSBUS 1335, DELMAS, MODDER EAST, 2210** | | | |
| **District/Town** | **DELMAS, 2210** | | | |
| **Owner** | **Izak De Jager** | | | |
| **Contact person** | **Izak De Jager** | | | |
| **Cell** | **084 200 0874** | **Tel** | **-** | |
| **Fax** | - | | | |
| **E-mail** | sakdmi@gmail.com | | | *Signature* |

**Locality Map**

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | 199ID | | | | | | | |
| **Coordinates** | X-coordinate | 28.60957 | | Y-coordinate | 26.11277 | | Z-coordinate | 1586 | | | | |
| **Locality type** | Borehole | | | **Date drilled** | Unknown | | | | | | | |
| **Borehole depth** | - | | **Borehole diameter** | - | | **Collar height** | - | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | Yes | - | No | - | | | | |
| **Reservoir & size** | - | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | - | Livestock watering | - | Domestic | X | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Anton Botha** | **Date sampled** | **11/04/2016** |
| **Sample type** | **Inorganic** | **Static water level** | **-** |
| **Short locality description: Borehole near house.** | | | |
| | | | |
| **Comments: Water for domestic workers. Cannot access as it is welded shut.** | | | |

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| PROJECT DETAILS | Rietkol Project |
|---|---|

| Personal Details | | | | |
|---|---|---|---|---|
| **Physical address** | **550 PLAAS BRAKLAAGTE, BOTHAVILLE, 9660** | | | No Profile Picture Taken |
| **Postal address** | **POSBUS 686, BOTHAVILLE, 9660** | | | |
| **District/Town** | **Bothaville, 9660** | | | |
| **Owner** | **Tinus Stols** | | | |
| **Contact person** | **Martin van Zyl** | | | |
| **Cell** | **083 255 6601** | **Tel** | **018 4411 039** | |
| **Fax** | - | | | |
| **E-mail** | tinus@stolsrose.co.za | | | *Signature* |

**Locality Map**

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | 202Unex1 | | | | | | | |
| **Coordinates** | X-coordinate | 28.60848 | | Y-coordinate | 26.11935 | | Z-coordinate | 1581 | | | | |
| **Locality type** | Borehole | | | **Date drilled** | Unknown | | | | | | | |
| **Borehole depth** | - | | **Borehole diameter** | Unknown | | **Collar height** | - | | | | | |
| **Estimated yield per hour** | 80 000 l/h | | | **Test certificate** | Yes | - | No | - | | | | |
| **Reservoir & size** | 300 000 l + storage tank | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | X | Livestock watering | - | Domestic | - | **Other** | - |
| **Irrigation of roses** | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Werner Rossouw** | **Date sampled** | **11/04/2016** |
| **Sample type** | **Inorganic** | **Static water level** | **-** |
| **Short locality description: Unknown locality of borehole, on Unex grounds.** | | | |
| | | | |
| **Comments: No access to the borehole due to the installed pump. Sample taken from storage tank pumping directly from the borehole. Coordinates taken at storage tank where sample was collected.** | | | |

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | 202Unex2 | | | | | | | |
| **Coordinates** | X-coordinate | 28.60716 | | Y-coordinate | 26.12128 | | Z-coordinate | 1590 | | | | |
| **Locality type** | Borehole | | | **Date drilled** | Unknown | | | | | | | |
| **Borehole depth** | Unknown | | **Borehole diameter** | Unknown | | **Collar height** | - | | | | | |
| **Estimated yield per hour** | 80 000 l/h | | | **Test certificate** | Yes | - | No | - | | | | |
| **Reservoir & size** | 300 000 l + storage tank | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | X | Livestock watering | - | Domestic | - | **Other** | - |
| **Irrigation of roses** | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Werner Rossouw** | **Date sampled** | **11/04/2016** |
| **Sample type** | **Inorganic** | **Static water level** | **-** |
| **Short locality description: Borehole inside rose nursery / greenhouse, pumping water to water storage tank.** | | | |
| | | | |
| **Comments: No access to the borehole due to the installed pump. Sample taken from storage tank pumping directly from the borehole.** | | | |

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| PROJECT DETAILS | Rietkol Project |
|---|---|

| Personal Details | | | | |
|---|---|---|---|---|
| **Physical address** | **MODDER EAST ORCHARDS AH, HOLDING 205, DELMAS, 2210** | | | No Profile Picture Taken |
| **Postal address** | **PO BOX 1983, DELMAS, 2210** | | | |
| **District/Town** | **DELMAS, 2210** | | | |
| **Owner** | **Martin van Zyl** | | | |
| **Contact person** | **Martin van Zyl** | | | |
| **Cell** | **082 505 4434** | **Tel** | - | |
| **Fax** | - | | | |
| **E-mail** | martin@unexroses.co.za | | | *Signature* |

**Locality Map**

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | | 205MZ | | | | | | |
| **Coordinates** | X-coordinate | 28.60522 | | Y-coordinate | 26.11833 | | Z-coordinate | 1578 | | | | |
| **Locality type** | Borehole | | | **Date drilled** | | Unknown | | | | | | |
| **Borehole depth** | - | | **Borehole diameter** | Unknown | | **Collar height** | - | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | | Yes | - | No | - | | | |
| **Reservoir & size** | - | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | - | Livestock watering | - | Domestic | X | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Werner Rossouw** | **Date sampled** | **11/04/2016** |
| **Sample type** | **Inorganic** | **Static water level** | **-** |
| **Short locality description: Borehole in brick housing, in an open field near the main house.** | | | |
| | | | |
| **Comments: No access to borehole due to installed pump and locked housing.** | | | |

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| PROJECT DETAILS | Rietkol Project |
|---|---|

| Personal Details | | | | |
|---|---|---|---|---|
| **Physical address** | **MODDER EAST ORCHARDS AH, HOLDING 206, DELMAS, 2210** | | | No Profile Picture Taken |
| **Postal address** | **PO BOX 138, DELMAS, 2210** | | | |
| **District/Town** | **Delmas, 2210** | | | |
| **Owner** | **Johan van Staden** | | | |
| **Contact person** | **Johan van Staden** | | | |
| **Cell** | **082 954 0317** | **Tel** | - | |
| **Fax** | - | | | |
| **E-mail** | vanstadenjohan730@gmail.com | | | *Signature* |

**Locality Map**

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | 206JS | | | | | | | |
| **Coordinates** | X-coordinate | 28.60498 | | Y-coordinate | 26.11887 | | Z-coordinate | 1587 | | | | |
| **Locality type** | Borehole | | | **Date drilled** | Unknown | | | | | | | |
| **Borehole depth** | ± 83 m | | **Borehole diameter** | Unknown | | **Collar height** | - | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | Yes | - | No | - | | | | |
| **Reservoir & size** | - | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | X | Livestock watering | X | Domestic | X | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Werner Rossouw** | **Date sampled** | **11/04/2016** |
| **Sample type** | **Inorganic** | **Static water level** | **-** |
| **Short locality description: Borehole in brick housing, inside ostrich grazing field.** | | | |
| | | | |
| **Comments: No access to borehole due to installed pump. Estimated depth.** | | | |

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| PROJECT DETAILS | Rietkol Project |
|---|---|

| Personal Details | | | | |
|---|---|---|---|---|
| **Physical address** | **MODDER EAST ORCHARDS AH, HOLDING 207** | | | No Profile Picture Taken |
| **Postal address** | **PO BOX 472, SUNDRA, 2200** | | | |
| **District/Town** | **-** | | | |
| **Owner** | **Natasha Jerome** | | | |
| **Contact person** | **Natasha Jerome** | | | |
| **Cell** | **083 375 8446** | **Tel** | **-** | |
| **Fax** | - | | | |
| **E-mail** | - | | | *Signature* |

**Locality Map**

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | 207NJ | | | | | | | |
| **Coordinates** | X-coordinate | 28.60663 | | Y-coordinate | 26.12044 | | Z-coordinate | 1588 | | | | |
| **Locality type** | Borehole | | | **Date drilled** | Unknown | | | | | | | |
| **Borehole depth** | - | | **Borehole diameter** | 18 cm | | **Collar height** | 30 cm | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | Yes | - | No | X | | | | |
| **Reservoir & size** | 10000 l JOJO tank | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | X | Livestock watering | X | Domestic | X | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Anton Botha** | **Date sampled** | **11/04/2016** |
| **Sample type** | **Inorganic** | **Static water level** | **20.89 m** |
| **Short locality description: Borehole at house (Plot 207)** | | | |
| | | | |
| **Comments:** | | | |

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| PROJECT DETAILS | Rietkol Project |
|---|---|

| Personal Details | | | | |
|---|---|---|---|---|
| **Physical address** | **KUYASA MINING PTY LTD, KUYASA HOUSE, WITBANK, 1034** | | | No Profile Picture Taken |
| **Postal address** | **PO BOX 738, DELMAS, WITBANK, 2210** | | | |
| **District/Town** | **-** | | | |
| **Owner** | **Bheki Mthethwa** | | | |
| **Contact person** | **Bheki Mthethwa** | | | |
| **Cell** | **082 900 6230** | **Tel** | **013 665 7001** | |
| **Fax** | - | | | |
| **E-mail** | bhekim@kuyasamining.co.za | | | *Signature* |

**Locality Map**

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | 208BM | | | | | | | |
| **Coordinates** | X-coordinate | 28.60510 | | Y-coordinate | 26.12275 | | Z-coordinate | 1591 | | | | |
| **Locality type** | Borehole | | | **Date drilled** | Unknown | | | | | | | |
| **Borehole depth** | - | | **Borehole diameter** | Unknown | | **Collar height** | 0 cm | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | Yes | - | No | - | | | | |
| **Reservoir & size** | 5000 l JOJO tank | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | - | Livestock watering | X | Domestic | X | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | | |
|---|---|---|---|---|
| **Sampler** | **Werner Rossouw** | **Date sampled** | **12/04/2016** |  |
| **Sample type** | **Inorganic** | **Static water level** | **-** | |
| **Short locality description: Borehole near main house at storage tank.** | | | | |
| | | | | |
| **Comments: No access due to installed pump and covered by welded steel plate, could not determine depths.** | | | | |

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | 216ABM | | | | | | | |
| **Coordinates** | X-coordinate | 28.60181 | | Y-coordinate | 26.12634 | | Z-coordinate | 1593 | | | | |
| **Locality type** | Borehole | | | **Date drilled** | Unknown | | | | | | | |
| **Borehole depth** | ± 200 m | | **Borehole diameter** | Unknown | | **Collar height** | - | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | Yes | - | No | - | | | | |
| **Reservoir & size** | - | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | - | No | X | **Other** | - | | |
| **Current and future use** | Irrigation | - | Livestock watering | - | Domestic | X | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | | |
|---|---|---|---|---|
| **Sampler** | **Anton Botha** | **Date sampled** | **11/04/2016** |  |
| **Sample type** | **-** | **Static water level** | **-** | |
| **Short locality description: Near house** | | | | |
| | | | | |
| **Comments: Borehole not in use due to no electricity. House construction currently in progress. No access due to cement slabs around and on top of the installed pump.** | | | | |

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web: www.aquatico.co.za
office: 012 450 3800 • fax: 012 450 3851

| PROJECT DETAILS | Rietkol Project |
|---|---|

| Personal Details | | | | |
|---|---|---|---|---|
| **Physical address** | **MODDER EAST ORCHARDS AH, HOLDING 210** | | | No Profile Picture Taken |
| **Postal address** | **PO BOX 2323, DELMAS, MPUMALANGA,2210** | | | |
| **District/Town** | **DELMAS, 2210** | | | |
| **Owner** | **Hans Burger** | | | |
| **Contact person** | **Hans Burger** | | | |
| **Cell** | **082 895 5327** | **Tel** | **-** | |
| **Fax** | - | | | |
| **E-mail** | - | | | *Signature* |

**Locality Map**

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | 210HB | | | | | | | |
| **Coordinates** | X-coordinate | 28.60759 | | Y-coordinate | 26.12412 | | Z-coordinate | 1606 | | | | |
| **Locality type** | Monitoring Borehole | | | **Date drilled** | Unknown | | | | | | | |
| **Borehole depth** | 80 m | | **Borehole diameter** | - | | **Collar height** | - | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | Yes | - | No | - | | | | |
| **Reservoir & size** | - | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | X | Livestock watering | X | Domestic | X | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | | |
|---|---|---|---|---|
| **Sampler** | **Deon / Machiel** | **Date sampled** | **01/04/2016** | **No Locality Picture Available** |
| **Sample type** | **Inorganic** | **Static water level** | **-** | |
| **Short locality description: Borehole in field 100 m from house.** | | | | |
| | | | | |
| **Comments:** | | | | |

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| PROJECT DETAILS | Rietkol Project |
|---|---|

| Personal Details | | | | |
|---|---|---|---|---|
| **Physical address** | **MODDER EAST ORCHARDS AH, HOLDING 213** | | | No Profile Picture Taken |
| **Postal address** | **PO BOX 503, SUNDRA 2200** | | | |
| **District/Town** | **SUNDRA 2200** | | | |
| **Owner** | **PE van der Walt** | | | |
| **Contact person** | **PJ van der Walt** | | | |
| **Cell** | **082 938 9124** | **Tel** | **-** | |
| **Fax** | - | | | |
| **E-mail** | 27829389724@vodamail.co.za | | | *Signature* |

**Locality Map**

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | 213JW1 | | | | | | | |
| **Coordinates** | X-coordinate | 28.60252 | | Y-coordinate | 26.12613 | | Z-coordinate | 1600 | | | | |
| **Locality type** | Borehole | | | **Date drilled** | February 2008 | | | | | | | |
| **Borehole depth** | 160 m | | **Borehole diameter** | 5 “ | | **Collar height** | - | | | | | |
| **Estimated yield per hour** | 14 000 | | | **Test certificate** | Yes | - | No | - | | | | |
| **Reservoir & size** | 5000 l JOJO tank and 40 000 l cement dam | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | X | Livestock watering | X | Domestic | X | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | | |
|---|---|---|---|---|
| **Sampler** | **Deon** | **Date sampled** | **01/04/2016** | **No Locality Picture Available** |
| **Sample type** | **Inorganic** | **Static water level** | **83.26 m** | |
| **Short locality description: Borehole North of the entrance.** | | | | |
| | | | | |
| **Comments:** | | | | |

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | 213JW2 | | | | | | | |
| **Coordinates** | X-coordinate | 28.60282 | | Y-coordinate | 26.12603 | | Z-coordinate | 1600 | | | | |
| **Locality type** | Borehole | | | **Date drilled** | February 2008 | | | | | | | |
| **Borehole depth** | 87 m | | **Borehole diameter** | 5 “ | | **Collar height** | - | | | | | |
| **Estimated yield per hour** | 14 000 | | | **Test certificate** | Yes | - | No | - | | | | |
| **Reservoir & size** | 5000 l JOJO tank and 40 000 l cement dam | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | - | No | X | **Other** | - | | |
| **Current and future use** | Irrigation | X | Livestock watering | X | Domestic | X | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | | |
|---|---|---|---|---|
| **Sampler** | **Deon** | **Date sampled** | **01/04/2016** | **No Locality Picture Available** |
| **Sample type** | **-** | **Static water level** | **-** | |
| **Short locality description: Borehole North of the house.** | | | | |
| | | | | |
| **Comments: No sample could be taken because the pump was not working.** | | | | |

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| PROJECT DETAILS | Rietkol Project |
|---|---|

| Personal Details | | | | |
|---|---|---|---|---|
| **Physical address** | **MODDER EAST ORCHARDS AH, HOLDING 219** | | | No Profile Picture Taken |
| **Postal address** | **-** | | | |
| **District/Town** | **DELMAS, 2210** | | | |
| **Owner** | **Edwin Wocke** | | | |
| **Contact person** | **Edwin Wocke** | | | |
| **Cell** | **083 299 7468** | **Tel** | **-** | |
| **Fax** | - | | | |
| **E-mail** | ewwocke@gmail.com | | | *Signature* |

**Locality Map**

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | 219EW | | | | | | | |
| **Coordinates** | X-coordinate | 28.61199 | | Y-coordinate | 26.12780 | | Z-coordinate | 1600 | | | | |
| **Locality type** | Monitoring Borehole | | | **Date drilled** | Unknown | | | | | | | |
| **Borehole depth** | - | | **Borehole diameter** | - | | **Collar height** | - | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | Yes | - | No | - | | | | |
| **Reservoir & size** | - | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | - | Livestock watering | - | Domestic | X | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | | |
|---|---|---|---|---|
| **Sampler** | **Deon / Anton** | **Date sampled** | **01/04/2016** | **No Locality Picture Available** |
| **Sample type** | **Inorganic** | **Static water level** | **14.83 m** | |
| **Short locality description: Borehole in small room near stores.** | | | | |
| | | | | |
| **Comments:** | | | | |

| PROJECT DETAILS | Rietkol Project |
|---|---|

| Personal Details | | | | |
|---|---|---|---|---|
| **Physical address** | **MODDER EAST ORCHARDS AH, HOLDING 222, ELOFF, 2210** | | | No Profile Picture Taken |
| **Postal address** | **PO BOX 2917, DELMAS, 2210** | | | |
| **District/Town** | **Delmas, 2210** | | | |
| **Owner** | **Piet Kotze** | | | |
| **Contact person** | **Piet Kotze** | | | |
| **Cell** | **079 090 2222** | **Tel** | - | |
| **Fax** | - | | | |
| **E-mail** | pietk@botselo.co.za | | | *Signature* |

**Locality Map**

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | 222PK | | | | | | | |
| **Coordinates** | X-coordinate | 28.61229 | | Y-coordinate | 26.12656 | | Z-coordinate | 1584 | | | | |
| **Locality type** | Borehole | | | **Date drilled** | Unknown | | | | | | | |
| **Borehole depth** | 71.20 m | | **Borehole diameter** | Unknown | | **Collar height** | - | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | Yes | - | No | - | | | | |
| **Reservoir & size** | 5000 l tank | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | - | Livestock watering | X | Domestic | X | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Werner Rossouw** | **Date sampled** | **12/04/2016** |
| **Sample type** | **Inorganic** | **Static water level** | **9.58 m** |
| **Short locality description: Borehole near main house inside brick housing, next to storage tank.** | | | |
| | | | |
| **Comments: Water pressure decreased recently.** | | | |

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| PROJECT DETAILS | Rietkol Project |
|---|---|

| Personal Details | | | | |
|---|---|---|---|---|
| **Physical address** | **MODDER EAST ORCHARDS RD 2, OLIFANTSFONTEIN, DELMAS** | | | No Profile Picture Taken |
| **Postal address** | **PO BOX 75, ITWATWA WEST DAVIDTON, 1519** | | | |
| **District/Town** | **DELMAS, 2210** | | | |
| **Owner** | **Boy Khetile Mabona** | | | |
| **Contact person** | **Boy Khetile Mabona** | | | |
| **Cell** | **083 486 0286** | **Tel** | **011 962 5833** | |
| **Fax** | - | | | |
| **E-mail** | - | | | *Signature* |

**Locality Map**

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | | 226BKM | | | | | | |
| **Coordinates** | X-coordinate | 28.61354 | | Y-coordinate | 26.12374 | | Z-coordinate | 1590 | | | | |
| **Locality type** | Borehole | | | **Date drilled** | | Unknown | | | | | | |
| **Borehole depth** | - | | **Borehole diameter** | - | | **Collar height** | - | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | | Yes | - | No | - | | | |
| **Reservoir & size** | 4 x 5000 l | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | X | Livestock watering | X | Domestic | X | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Anton Botha** | **Date sampled** | **12/04/2016** |
| **Sample type** | **Inorganic** | **Static water level** | **-** |
| **Short locality description: Borehole near informal housing, cattle in the area.** | | | |
| | | | |
| **Comments: Water for domestic workers sampled at JoJo tank. Cannot access due to bricks etc. covering borehole.** | | | |

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| PROJECT DETAILS | Rietkol Project |
|---|---|

| Personal Details | | | | |
|---|---|---|---|---|
| **Physical address** | **RIACOLINE PROPERTIES BK** | | | No Profile Picture Taken |
| **Postal address** | **PO BOX 573, DELMAS, 2210** | | | |
| **District/Town** | **Delmas, 2210** | | | |
| **Owner** | **Jaco Roux** | | | |
| **Contact person** | **Jaco Roux** | | | |
| **Cell** | **082 442 3458** | **Tel** | - | |
| **Fax** | - | | | |
| **E-mail** | jrjacoroux@gmail.com | | | *Signature* |

**Locality Map**

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | 227JR | | | | | | | |
| **Coordinates** | X-coordinate | 28.61380 | | Y-coordinate | 26.12330 | | Z-coordinate | 1584 | | | | |
| **Locality type** | Borehole | | | **Date drilled** | Unknown | | | | | | | |
| **Borehole depth** | - | | **Borehole diameter** | Unknown | | **Collar height** | - | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | Yes | - | No | - | | | | |
| **Reservoir & size** | - | | | | | | | | | | | |
| **Liter** | Submersible | - | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | - | No | X | **Other** | - | | |
| **Current and future use** | Irrigation | - | Livestock watering | - | Domestic | - | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Werner Rossouw** | **Date sampled** | **12/04/2016** |
| **Sample type** | **-** | **Static water level** | **-** |
| **Short locality description: Borehole behind small informal settlement, next to a single tree.** | | | |
| | | | |
| **Comments: Borehole covered with a concrete filled drum, covered by gravel. Needs to be dug open.** | | | |

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| PROJECT DETAILS | Rietkol Project |
|---|---|

| Personal Details | | | | |
|---|---|---|---|---|
| **Physical address** | **MODDER EAST ORCHARDS AH, HOLDING 266** | | | No Profile Picture Taken |
| **Postal address** | **PO BOX 1696, DELMAS , MPUMALANGA , 2210** | | | |
| **District/Town** | **DELMAS, 2210** | | | |
| **Owner** | **Hennie Du Plessis** | | | |
| **Contact person** | **Hennie Du Plessis** | | | |
| **Cell** | **072 908 8535** | **Tel** | **013 668 0916** | |
| **Fax** | - | | | |
| **E-mail** | hennied@gmail.com | | | *Signature* |

**Locality Map**

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | 229HDP | | | | | | | |
| **Coordinates** | X-coordinate | 28.61085 | | Y-coordinate | 26.12126 | | Z-coordinate | 1592 | | | | |
| **Locality type** | Borehole | | | **Date drilled** | 2008 | | | | | | | |
| **Borehole depth** | 115 m | | **Borehole diameter** | Unknown | | **Collar height** | - | | | | | |
| **Estimated yield per hour** | 8000 l/h | | | **Test certificate** | Yes | - | No | X | | | | |
| **Reservoir & size** | 5000 l JOJO tank | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | X | Livestock watering | - | Domestic | X | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Anton Botha** | **Date sampled** | **11/04/2016** |
| **Sample type** | **Inorganic** | **Static water level** | **-** |
| **Short locality description: Borehole next to house, pumping to JoJo tank situated on steel structure.** | | | |
| | | | |
| **Comments: No access regarding depth due to installed pump.** | | | |

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| PROJECT DETAILS | Rietkol Project |
|---|---|

| Personal Details | | | | |
|---|---|---|---|---|
| **Physical address** | **14 BESTER STR, BOTLENG, DELMAS, 2210** | | | No Profile Picture Taken |
| **Postal address** | **PO BOX 2410, DELMAS, 2210** | | | |
| **District/Town** | **DELMAS, 2210** | | | |
| **Owner** | **Naude Rossouw** | | | |
| **Contact person** | **Jan Adriaan Rossouw, Nick Pretorius** | | | |
| **Cell** | **082 651 2000** | **Tel** | **013 665 1155** | |
| **Fax** | - | | | |
| **E-mail** | naude@rossgro.co.za | | | *Signature* |

**Locality Map**

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | 237Vrede | | | | | | | |
| **Coordinates** | X-coordinate | 28.59652 | | Y-coordinate | 26.13312 | | Z-coordinate | 1598 | | | | |
| **Locality type** | Borehole | | | **Date drilled** | Unknown | | | | | | | |
| **Borehole depth** | - | | **Borehole diameter** | Unknown | | **Collar height** | 15 cm | | | | | |
| **Estimated yield per hour** | ± 3177 l/h | | | **Test certificate** | Yes | - | No | - | | | | |
| **Reservoir & size** | 8 x 15 000 l JOJO tanks | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | X | Livestock watering | X | Domestic | - | **Other** | - |
| **Chicken farm, water intensive** | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Werner Rossouw** | **Date sampled** | **11/04/2016** |
| **Sample type** | **Inorganic** | **Static water level** | **27.28** |
| **Short locality description: Borehole near crop field and pump house, outside chicken farm enclosure.** | | | |
| | | | |
| **Comments: No access to the borehole due to the installed pump. Sample taken from storage tank pumping directly from the borehole. Very strong yield.** | | | |

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | 234Geluk | | | | | | | |
| **Coordinates** | X-coordinate | 28.62066 | | Y-coordinate | 26.12674 | | Z-coordinate | 1595 | | | | |
| **Locality type** | Borehole | | | **Date drilled** | Unknown | | | | | | | |
| **Borehole depth** | ± 47.50 m | | **Borehole diameter** | Unknown | | **Collar height** | 30 cm | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | Yes | - | No | - | | | | |
| **Reservoir & size** | 8 x 15 000 l JOJO tanks | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | X | Livestock watering | X | Domestic | - | **Other** | - |
| **Chicken farm, water intensive.** | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Werner Rossouw** | **Date sampled** | **11/04/2016** |
| **Sample type** | **Inorganic** | **Static water level** | **± 38 m** |
| **Short locality description: Borehole in open field** | | | |
| | | | |
| **Comments: Measuring of depth difficult because of installed pump, not registering water level. Water levels estimated. Only borehole in the area, very strong yield.** | | | |

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| PROJECT DETAILS | Rietkol Project |
|---|---|

| Personal Details | | | | |
|---|---|---|---|---|
| **Physical address** | **MODDER EAST ORCHARDS AH, HOLDING 235** | | | No Profile Picture Taken |
| **Postal address** | **PO BOX 136, DELMAS, 2210** | | | |
| **District/Town** | **Delmas, 2210** | | | |
| **Owner** | **Leon Pretorius** | | | |
| **Contact person** | **Leon Pretorius** | | | |
| **Cell** | **083 701 0079** | **Tel** | - | |
| **Fax** | - | | | |
| **E-mail** | pretblom@lantic.net | | | *Signature* |

**Locality Map**

| Source Information | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | | **Locality number** | | 235LP1 | | | | | | |
| **Coordinates** | X-coordinate | 28.61366 | | | Y-coordinate | 26.11891 | | | Z-coordinate | 1579 | | | |
| **Locality type** | Borehole | | | | **Date drilled** | | Unknown | | | | | | |
| **Borehole depth** | ± 160 m | | | | **Borehole diameter** | Unknown | | | **Collar height** | - | | | |
| **Estimated yield per hour** | ± 30000 l/h | | | | **Test certificate** | | Yes | - | No | - | | | |
| **Reservoir & size** | 320 000 l storage tank | | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | X | Livestock watering | - | Domestic | - | **Other** | - |
| **Irrigation of Roses** | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Werner Rossouw** | **Date sampled** | **12/04/2016** |
| **Sample type** | **Inorganic** | **Static water level** | **± 42.69 m** |
| **Short locality description: Borehole furthest West, behind greenhouses.** | | | |
| | | | |
| **Comments: No access to the borehole due to the installed pump. Sample taken from storage tank, pumped directly from the borehole – sample is a combination of 235LP1 and 235LP4. Estimated borehole depth and water level.** | | | |

| Source Information | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | | **Locality number** | | 225LP2 | | | | | | |
| **Coordinates** | X-coordinate | 28.61512 | | | Y-coordinate | 26.11951 | | | Z-coordinate | 1577 | | | |
| **Locality type** | Monitoring borehole | | | | **Date drilled** | | Unknown | | | | | | |
| **Borehole depth** | ± 140 m | | | | **Borehole diameter** | Unknown | | | **Collar height** | - | | | |
| **Estimated yield per hour** | - | | | | **Test certificate** | | Yes | - | No | - | | | |
| **Reservoir & size** | None | | | | | | | | | | | | |
| **Liter** | Submersible | - | Mono pump | - | Windmill | - | Hand pump | - | Other | Monitoring | | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | - | No | X | **Other** | - | | |
| **Current and future use** | Irrigation | - | Livestock watering | - | Domestic | - | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Werner Rossouw** | **Date sampled** | **12/04/2016** |
| **Sample type** | **Inorganic** | **Static water level** | **42.69 m** |
| **Short locality description: Monitoring borehole next to greenhouse, no. MP360.** | | | |
| | | | |
| **Comments: Municipal monitoring borehole. Monitored once a month.** | | | |

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | | **Locality number** | 225LP3 | | | | | | |
| **Coordinates** | X-coordinate | 28.61621 | | | Y-coordinate | 26.11798 | | | Z-coordinate | 1576 | | |
| **Locality type** | Borehole | | | | **Date drilled** | Unknown | | | | | | |
| **Borehole depth** | 84 m | | | | **Borehole diameter** | Unknown | | | **Collar height** | - | | |
| **Estimated yield per hour** | - | | | | **Test certificate** | Yes | - | No | - | | | |
| **Reservoir & size** | 5000 l JoJo Tank | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | X | Livestock watering | - | Domestic | X | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Werner Rossouw** | **Date sampled** | **12/04/2016** |
| **Sample type** | **Inorganic** | **Static water level** | **41.64 m** |
| **Short locality description: Borehole near house, next to greenhouse.** | | | |
| | | | |
| **Comments: Household borehole.** | | | |

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | | **Locality number** | 225LP4 | | | | | | |
| **Coordinates** | X-coordinate | 28.61663 | | | Y-coordinate | 26.11781 | | | Z-coordinate | 1576 | | |
| **Locality type** | Monitoring borehole | | | | **Date drilled** | Unknown | | | | | | |
| **Borehole depth** | ± 140 m | | | | **Borehole diameter** | Unknown | | | **Collar height** | - | | |
| **Estimated yield per hour** | ± 30000 l/h | | | | **Test certificate** | Yes | - | No | - | | | |
| **Reservoir & size** | 320 000 l storage tank | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | X | Livestock watering | - | Domestic | - | **Other** | - |
| **Irrigation of roses** | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Werner Rossouw** | **Date sampled** | **12/04/2016** |
| **Sample type** | **Inorganic** | **Static water level** | **42 m** |
| **Short locality description: Borehole furthest North, in open field.** | | | |
| | | | |
| **Comments: No access to the borehole due to the installed pump. Sample taken from storage tank, pumped directly from the borehole – sample is a combination of 235LP1 and 235LP4. Estimated borehole depth.** | | | |

**No Locality Picture Available**

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address: 89 regency drive, R21 corporate park, centurion
postal: p.o. box 905008, garsfontein, 0042
web: www.aquatico.co.za
office: 012 450 3800 • fax: 012 450 3851

| PROJECT DETAILS | Rietkol Project |
|---|---|

| Personal Details | | | | |
|---|---|---|---|---|
| **Physical address** | **MODDER EAST ORCHARDS AH, HOLDING 237** | | | No Profile Picture Taken |
| **Postal address** | **PO BOX 138, ELOFF, DELMAS, 2210** | | | |
| **District/Town** | **DELMAS, 2210** | | | |
| **Owner** | **Japie Viljoen** | | | |
| **Contact person** | **Japie Viljoen** | | | |
| **Cell** | **082 787 2943** | **Tel** | **013 933 3340** | |
| **Fax** | - | | | |
| **E-mail** | tinus@stolsrose.co.za | | | *Signature* |

**Locality Map**

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | | **Locality number** | 237JV1 | | | | | | |
| **Coordinates** | X-coordinate | 28.61359 | | | Y-coordinate | 26.11633 | | | Z-coordinate | 1581 | | |
| **Locality type** | Borehole | | | | **Date drilled** | Unknown | | | | | | |
| **Borehole depth** | 101 m | | | | **Borehole diameter** | Unknown | | | **Collar height** | 10 cm | | |
| **Estimated yield per hour** | - | | | | **Test certificate** | Yes | - | No | - | | | |
| **Reservoir & size** | - | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | - | No | X | **Other** | - | | |
| **Current and future use** | Irrigation | - | Livestock watering | - | Domestic | - | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Werner Rossouw** | **Date sampled** | **11/04/2016** |
| **Sample type** | **-** | **Static water level** | **27.05 m** |
| **Short locality description: Borehole in open field, nearest to the house** | | | |
| | | | |
| **Comments: No water sample taken as pump is not in working order. Weak yield.** | | | |

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | | **Locality number** | 237JV2 | | | | | | |
| **Coordinates** | X-coordinate | 28.61387 | | | Y-coordinate | 26.11662 | | | Z-coordinate | 1579 | | |
| **Locality type** | Borehole | | | | **Date drilled** | Unknown | | | | | | |
| **Borehole depth** | ± 61 m | | | | **Borehole diameter** | Unknown | | | **Collar height** | - | | |
| **Estimated yield per hour** | - | | | | **Test certificate** | Yes | - | No | - | | | |
| **Reservoir & size** | - | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | - | No | X | **Other** | - | | |
| **Current and future use** | Irrigation | - | Livestock watering | - | Domestic | - | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Werner Rossouw** | **Date sampled** | **11/04/2016** |
| **Sample type** | **-** | **Static water level** | **25.5 m** |
| **Short locality description: Borehole in open field.** | | | |
| | | | |
| **Comments: No water sample taken as pump is not in working order. Weak yield.** | | | |

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | | **Locality number** | 237JV3 | | | | | | |
| **Coordinates** | X-coordinate | 28.61425 | | | Y-coordinate | 26.11648 | | | Z-coordinate | 1578 | | |
| **Locality type** | Borehole | | | | **Date drilled** | Unknown | | | | | | |
| **Borehole depth** | ± 65 m | | **Borehole diameter** | | Unknown | | **Collar height** | | 40 cm | | | |
| **Estimated yield per hour** | | | | | **Test certificate** | | Yes | - | No | - | | |
| **Reservoir & size** | 5000 l JOJO tank | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | - | Livestock watering | - | Domestic | X | **Other** | - |
| **Irrigation of roses** | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Werner Rossouw** | **Date sampled** | **11/04/2016** |
| **Sample type** | **Inorganic** | **Static water level** | **28.55** |
| **Short locality description: Borehole in open field.** | | | |
| | | | |
| **Comments: Strong yield.** | | | |

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office: 012 450 3800 • fax: 012 450 3851

| PROJECT DETAILS | Rietkol Project |
|---|---|

| Personal Details | | | |
|---|---|---|---|
| Physical address | - | |  |
| Postal address | - | | |
| District/Town | DELMAS, 2210 | | |
| Owner | Louis Louman | | |
| Contact person | Martin van Zyl | | |
| Cell | - | Tel | - |
| Fax | - | | |
| E-mail | - | | *Signature* |

**Locality Map**

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | | **Locality number** | | 237LL1 | | | | | |
| **Coordinates** | X-coordinate | 28.58494 | | | Y-coordinate | 26.12340 | | | Z-coordinate | 1570 | | |
| **Locality type** | Borehole | | | | **Date drilled** | | Unknown | | | | | |
| **Borehole depth** | - | | | | **Borehole diameter** | Unknown | | | **Collar height** | - | | |
| **Estimated yield per hour** | - | | | | **Test certificate** | | Yes | - | No | - | | |
| **Reservoir & size** | Open dam | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | X | Livestock watering | - | Domestic | - | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | | |
|---|---|---|---|---|
| **Sampler** | **Werner Rossouw** | **Date sampled** | **11/04/2016** |  |
| **Sample type** | **Inorganic** | **Static water level** | **-** | |
| **Short locality description: Borehole in crop field, red pipes. Near N12 highway.** | | | | |
| | | | | |
| **Comments: No access to borehole due to installed pump. Sample taken from dam, containing a combination of different sources.** | | | | |

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | | **Locality number** | | 237LL2 | | | | | |
| **Coordinates** | X-coordinate | 28.58368 | | | Y-coordinate | 26.12419 | | | Z-coordinate | 1569 | | |
| **Locality type** | Borehole | | | | **Date drilled** | | Unknown | | | | | |
| **Borehole depth** | - | | | | **Borehole diameter** | Unknown | | | **Collar height** | - | | |
| **Estimated yield per hour** | - | | | | **Test certificate** | | Yes | - | No | - | | |
| **Reservoir & size** | Open dam | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | X | Livestock watering | - | Domestic | - | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | | |
|---|---|---|---|---|
| **Sampler** | **Werner Rossouw** | **Date sampled** | **11/04/2016** |  |
| **Sample type** | **Inorganic** | **Static water level** | **-** | |
| **Short locality description: Borehole in crop field, red pipes. Near N12 highway.** | | | | |
| | | | | |
| **Comments: No access to borehole due to installed pump. Sample taken from dam, containing a combination of different sources.** | | | | |

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | | **Locality number** | | 237LL3 | | | | | |
| **Coordinates** | X-coordinate | 28.58274 | | | Y-coordinate | 26.12441 | | | Z-coordinate | 1569 | | |
| **Locality type** | Borehole | | | | **Date drilled** | | Unknown | | | | | |
| **Borehole depth** | - | | | | **Borehole diameter** | Unknown | | | **Collar height** | - | | |
| **Estimated yield per hour** | - | | | | **Test certificate** | | Yes | - | No | - | | |
| **Reservoir & size** | Open dam | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | X | Livestock watering | - | Domestic | - | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Werner Rossouw** | **Date sampled** | **11/04/2016** |
| **Sample type** | **Inorganic** | **Static water level** | **-** |
| **Short locality description: Borehole Near crop field, red pipes. Next to N12 highway.** | | | |
| | | | |
| **Comments: No access to borehole due to installed pump. Sample taken from dam, containing a combination of different sources.** | | | |

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | | **Locality number** | | 237LL4 | | | | | |
| **Coordinates** | X-coordinate | 28.58751 | | | Y-coordinate | 26.12748 | | | Z-coordinate | 1579 | | |
| **Locality type** | Borehole | | | | **Date drilled** | | Unknown | | | | | |
| **Borehole depth** | - | | | | **Borehole diameter** | Unknown | | | **Collar height** | - | | |
| **Estimated yield per hour** | - | | | | **Test certificate** | | Yes | - | No | - | | |
| **Reservoir & size** | Open dam | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | X | Livestock watering | - | Domestic | - | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Werner Rossouw** | **Date sampled** | **11/04/2016** |
| **Sample type** | **Inorganic** | **Static water level** | **-** |
| **Short locality description: Borehole next to crop field, red pipes. Near the Terreblanche farm.** | | | |
| | | | |
| **Comments: No access to borehole due to installed pump. Sample taken from dam, containing a combination of different sources.** | | | |

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address: 89 regency drive, R21 corporate park, centurion
postal: p.o. box 905008, garsfontein, 0042
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office: 012 450 3800 • fax: 012 450 3851

| PROJECT DETAILS | Rietkol Project |
|---|---|

| Personal Details | | | | |
|---|---|---|---|---|
| **Physical address** | **MODDER EAST ORCHARDS, HOLDING 266** | | | No Profile Picture Taken |
| **Postal address** | **PO BOX 818, DELMAS, 2210** | | | |
| **District/Town** | **DELMAS, 2210** | | | |
| **Owner** | **Dennis Ian Webster** | | | |
| **Contact person** | **Dennis Ian Webster** | | | |
| **Cell** | **082 891 2697** | **Tel** | **013 665 3940** | |
| **Fax** | - | | | |
| **E-mail** | webster.dennis754@gmail.com | | | *Signature* |

**Locality Map**

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | 266IDW1 | | | | | | | |
| **Coordinates** | X-coordinate | 28.62148 | | Y-coordinate | 26.11989 | | Z-coordinate | 1586 | | | | |
| **Locality type** | Borehole | | | **Date drilled** | Unknown | | | | | | | |
| **Borehole depth** | 57 m | | **Borehole diameter** | Unknown | | **Collar height** | - | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | Yes | - | No | - | | | | |
| **Reservoir & size** | - | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | X | Livestock watering | - | Domestic | X | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Anton Botha** | **Date sampled** | **11/04/2016** |
| **Sample type** | **Inorganic** | **Static water level** | **-** |
| **Short locality description: Borehole north of house, situated within cement housing.** | | | |
| | | | |
| **Comments: Sampled from a tap at the house. Sample is a combination of 266IDW1 and 266IDW2 from a single tank. No access to water level depth due to pump and rubberizing installed.** | | | |

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | 266IDW2 | | | | | | | |
| **Coordinates** | X-coordinate | 28.62102 | | Y-coordinate | 26.12049 | | Z-coordinate | 1585 | | | | |
| **Locality type** | Borehole | | | **Date drilled** | Unknown | | | | | | | |
| **Borehole depth** | 90 m | | **Borehole diameter** | Unknown | | **Collar height** | - | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | Yes | - | No | - | | | | |
| **Reservoir & size** | - | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | X | Livestock watering | - | Domestic | X | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Anton Botha** | **Date sampled** | **11/04/2016** |
| **Sample type** | **Inorganic** | **Static water level** | **-** |
| **Short locality description: Borehole south of house, covered with sand and gravel.** | | | |
| | | | |
| **Comments: Sampled from a tap at the house. Sample is a combination of 266IDW1 and 266IDW2 from a single tank.** | | | |

**No Locality Picture Available**

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address: 89 regency drive, R21 corporate park, centurion
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web: www.aquatico.co.za
office: 012 450 3800 • fax: 012 450 3851

| PROJECT DETAILS | Rietkol Project |
|---|---|

| Personal Details | | | | |
|---|---|---|---|---|
| **Physical address** | **PLOT, PLAAS HEKPOORT RD, DELMAS, WITBANK, 2210** | | | No Profile Picture Taken |
| **Postal address** | **POSBUS 1367, DELMAS, 2210** | | | |
| **District/Town** | **DELMAS, 2210** | | | |
| **Owner** | **Louis Frederik Jacobus Cremer** | | | |
| **Contact person** | **Louis Cremer** | | | |
| **Cell** | **083 929 0092** | **Tel** | **-** | |
| **Fax** | - | | | |
| **E-mail** | - | | | *Signature* |

**Locality Map**

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | 271LFJ1 | | | | | | | |
| **Coordinates** | X-coordinate | 28.61996 | | Y-coordinate | 26.12345 | | Z-coordinate | 1592 | | | | |
| **Locality type** | Borehole | | | **Date drilled** | Unknown | | | | | | | |
| **Borehole depth** | - | | **Borehole diameter** | - | | **Collar height** | - | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | Yes | - | No | - | | | | |
| **Reservoir & size** | 5000 l JOJO Tank | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | X | Livestock watering | - | Domestic | X | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Anton Botha** | **Date sampled** | **11/04/2016** |
| **Sample type** | **Inorganic** | **Static water level** | **-** |
| **Short locality description:** | | | |
| | | | |
| **Comments: Sampled at tap from tank.** | | | |

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | 271LFJ2 | | | | | | | |
| **Coordinates** | X-coordinate | 28.61981 | | Y-coordinate | 26.12371 | | Z-coordinate | 1592 | | | | |
| **Locality type** | Borehole | | | **Date drilled** | Unknown | | | | | | | |
| **Borehole depth** | - | | **Borehole diameter** | - | | **Collar height** | - | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | Yes | - | No | - | | | | |
| **Reservoir & size** | - | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | - | No | X | **Other** | - | | |
| **Current and future use** | Irrigation | - | Livestock watering | - | Domestic | - | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Anton Botha** | **Date sampled** | **11/04/2016** |
| **Sample type** | **-** | **Static water level** | **-** |
| **Short locality description:** | | | |
| | | | |
| **Comments: No Water.** | | | |

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web: www.aquatico.co.za
office: 012 450 3800 • fax: 012 450 3851

| PROJECT DETAILS | Rietkol Project |
|---|---|

| Personal Details | | | | |
|---|---|---|---|---|
| **Physical address** | **MODDER EAST ORCHARDS AH, HOLDING 272** | | | No Profile Picture Taken |
| **Postal address** | **PO BOX 2181, DELMAS, 2210** | | | |
| **District/Town** | **Delmas, 2210** | | | |
| **Owner** | **Johan Rudloph** | | | |
| **Contact person** | **Louis** | | | |
| **Cell** | **078 277 4383** | **Tel** | - | |
| **Fax** | - | | | |
| **E-mail** | Elizmarudolph44@gmail.com | | | *Signature* |

**Locality Map**

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | 272JR1 | | | | | | | |
| **Coordinates** | X-coordinate | 28.61984 | | Y-coordinate | 26.12446 | | Z-coordinate | 1586 | | | | |
| **Locality type** | Borehole | | | **Date drilled** | Unknown | | | | | | | |
| **Borehole depth** | ± 65 m | | **Borehole diameter** | Unknown | | **Collar height** | - | | | | | |
| **Estimated yield per hour** | | | | **Test certificate** | Yes | - | No | - | | | | |
| **Reservoir & size** | 5000 l JoJo Tank | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | X | Livestock watering | X | Domestic | X | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Werner Rossouw** | **Date sampled** | **12/04/2016** |
| **Sample type** | **Inorganic** | **Static water level** | **-** |
| **Short locality description: Borehole next to JoJo Tank, in field near house.** | | | |
| | | | |
| **Comments: No access to the borehole due to the installed pump. Sample taken from a tap pumping directly from the borehole in the house. Estimated borehole depth.** | | | |

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | 272JR2 | | | | | | | |
| **Coordinates** | X-coordinate | 28.61943 | | Y-coordinate | 26.12496 | | Z-coordinate | 1587 | | | | |
| **Locality type** | Open well | | | **Date drilled** | Unknown | | | | | | | |
| **Borehole depth** | Unknown | | **Borehole diameter** | Unknown | | **Collar height** | - | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | Yes | - | No | - | | | | |
| **Reservoir & size** | - | | | | | | | | | | | |
| **Liter** | Submersible | - | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | - | No | X | **Other** | - | | |
| **Current and future use** | Irrigation | - | Livestock watering | - | Domestic | - | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Werner Rossouw** | **Date sampled** | **12/04/2016** |
| **Sample type** | **Inorganic** | **Static water level** | **± 6 m** |
| **Short locality description: Well near house** | | | |
| | | | |
| **Comments: No access to the bottom of the well due to a plate in the well. Sample taken directly from the well.** | | | |

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| PROJECT DETAILS | Rietkol Project |
|---|---|

| Personal Details | | | | |
|---|---|---|---|---|
| **Physical address** | **MODDER EAST ORCHARDS AH, 277 PLOT** | | | No Profile Picture Taken |
| **Postal address** | **FARM HOLFONTEIN, PERSIDA, SUNDRA, 2000** | | | |
| **District/Town** | **DELMAS, 2210** | | | |
| **Owner** | **Kobus Greeff** | | | |
| **Contact person** | **Kobus Greeff** | | | |
| **Cell** | **081 861 5600** | **Tel** | **-** | |
| **Fax** | - | | | |
| **E-mail** | jjgreeff@gmail.com | | | *Signature* |

**Locality Map**

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | 277KG | | | | | | | |
| **Coordinates** | X-coordinate | 28.61530 | | Y-coordinate | 26.12674 | | Z-coordinate | 1596 | | | | |
| **Locality type** | Borehole | | | **Date drilled** | Unknown | | | | | | | |
| **Borehole depth** | - | | **Borehole diameter** | - | | **Collar height** | - | | | | | |
| **Estimated yield per hour** | 40 000 l / 40 min. | | | **Test certificate** | Yes | - | No | X | | | | |
| **Reservoir & size** | 2 x 20 000 l JOJO tanks | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | X | Livestock watering | - | Domestic | X | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Anton Botha** | **Date sampled** | **12/04/2016** |
| **Sample type** | **Inorganic** | **Static water level** | **-** |
| **Short locality description: Borehole at house, pumping to JoJo tanks at house as well as the workshop.** | | | |
| | | | |
| **Comments: Sampled at house tap. No access regarding the water level due to installed pump.** | | | |

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| PROJECT DETAILS | Rietkol Project |
|---|---|

| Personal Details | | | | |
|---|---|---|---|---|
| **Physical address** | **MODDER EAST ORCHARDS AH, HOLDING 279** | | | No Profile Picture Taken |
| **Postal address** | **PO BOX 535 DELMAS 2211** | | | |
| **District/Town** | **DELMAS, 2210** | | | |
| **Owner** | **Jan Du Plooy / Roy Robertson** | | | |
| **Contact person** | **Jan Du Plooy / Roy Robertson** | | | |
| **Cell** | **082 892 0418 / 082 891 9726** | **Tel** | **011 265 3601** | |
| **Fax** | - | | | |
| **E-mail** | jan.duplooy@combinedpi.co.za / roy.robertson@combinedpi.co.za | | | *Signature* |

**Locality Map**

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | 281JDP1 | | | | | | | |
| **Coordinates** | X-coordinate | 28.61513 | | Y-coordinate | 26.12885 | | Z-coordinate | 1598 | | | | |
| **Locality type** | Monitoring Borehole | | | **Date drilled** | Unknown | | | | | | | |
| **Borehole depth** | 54 m | | **Borehole diameter** | - | | **Collar height** | - | | | | | |
| **Estimated yield per hour** | 10 000 l / 11 hour | | | **Test certificate** | Yes | - | No | X | | | | |
| **Reservoir & size** | - | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

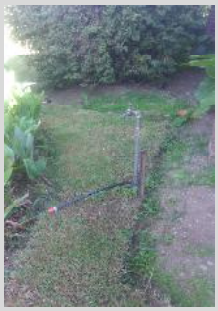
| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | - | Livestock watering | X | Domestic | X | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Anton Botha** | **Date sampled** | **11/04/2016** |
| **Sample type** | **Inorganic** | **Static water level** | **-** |
| **Short locality description: Borehole within steel cage, locked.** | | | |
| | | | |
| **Comments: No access to borehole due to installed pump. Sampled from tap at workshop. Algae in water.** | | | |

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | 278JDP2 | | | | | | | |
| **Coordinates** | X-coordinate | 28.61386 | | Y-coordinate | 26.12788 | | Z-coordinate | 1597 | | | | |
| **Locality type** | Borehole | | | **Date drilled** | Unknown | | | | | | | |
| **Borehole depth** | 180 m | | **Borehole diameter** | - | | **Collar height** | - | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | Yes | - | No | X | | | | |
| **Reservoir & size** | - | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | - | Livestock watering | X | Domestic | X | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Anton Botha** | **Date sampled** | **11/04/2016** |
| **Sample type** | **Inorganic** | **Static water level** | **-** |
| **Short locality description: Borehole within steel cage, locked.** | | | |
| | | | |
| **Comments: No access to borehole due to installed pump. Sampled from tap at the house. Algae in water.** | | | |



| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | | 278RR | | | | | | |
| **Coordinates** | X-coordinate | 28.61343 | | Y-coordinate | 26.12667 | | Z-coordinate | 1580 | | | | |
| **Locality type** | Open borehole | | | **Date drilled** | | Unknown | | | | | | |
| **Borehole depth** | 16.45 m | | **Borehole diameter** | Unknown | | **Collar height** | - | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | | Yes | - | No | - | | | |
| **Reservoir & size** | - | | | | | | | | | | | |
| **Liter** | Submersible | - | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | - | No | X | **Other** | - | | |
| **Current and future use** | Irrigation | - | Livestock watering | - | Domestic | - | **Other** | - |
| **Possible future use for irrigation.** | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Werner Rossouw** | **Date sampled** | **11/04/2016** |
| **Sample type** | **Inorganic** | **Static water level** | **10.10 m** |
| **Short locality description: Borehole at the edge of the property perimeter next to the big green cellular tower.** | | | |
| | | | |
| **Comments: Open borehole with rust colored water.** | | | |

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| PROJECT DETAILS | Rietkol Project |
|---|---|

| Personal Details | | | | |
|---|---|---|---|---|
| **Physical address** | **MODDER EAST ORCHARDS AH, HOLDING 280** | | | No Profile Picture Taken |
| **Postal address** | **FARM HOLFONTEIN, PERSIDA, SUNDRA, 2000** | | | |
| **District/Town** | **ELOFF, 2210** | | | |
| **Owner** | **Elzabe Greyling** | | | |
| **Contact person** | **Elzabe Greyling** | | | |
| **Cell** | **072 473 2673** | **Tel** | **-** | |
| **Fax** | - | | | |
| **E-mail** | elsagreyling@mobileemail-vodafonesa.co.za | | | *Signature* |

**Locality Map**

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | 280EG | | | | | | | |
| **Coordinates** | X-coordinate | 28.61589 | | Y-coordinate | 26.12967 | | Z-coordinate | 1596 | | | | |
| **Locality type** | Borehole | | | **Date drilled** | Unknown | | | | | | | |
| **Borehole depth** | ± 43 m | | **Borehole diameter** | - | | **Collar height** | - | | | | | |
| **Estimated yield per hour** | | | | **Test certificate** | Yes | - | No | X | | | | |
| **Reservoir & size** | 5000 l JOJO tank | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | X | Livestock watering | X | Domestic | X | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Anton Botha** | **Date sampled** | **11/04/2016** |
| **Sample type** | **Inorganic** | **Static water level** | **-** |
| **Short locality description: Borehole between three households** | | | |
| | | | |
| **Comments: Sampled at tap from main house. No access to water level due to pump installed.** | | | |

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office: 012 450 3800 • fax: 012 450 3851

| PROJECT DETAILS | Rietkol Project |
|---|---|

| Personal Details | | | | |
|---|---|---|---|---|
| **Physical address** | - | | | No Profile Picture Taken |
| **Postal address** | **PO BOX 635, DELMAS, 2210** | | | |
| **District/Town** | **Delmas, 2210** | | | |
| **Owner** | **Joe Da Rocha** | | | |
| **Contact person** | **Luiz Da Rocha** | | | |
| **Cell** | **082 452 7797** | **Tel** | - | |
| **Fax** | - | | | |
| **E-mail** | darochabros@absamail.co.za | | | *Signature* |

**Locality Map**

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | BBH01 | | | | | | | |
| **Coordinates** | X-coordinate | - | | Y-coordinate | - | | | Z-coordinate | - | | | |
| **Locality type** | Borehole | | | **Date drilled** | Unknown | | | | | | | |
| **Borehole depth** | 26.62 m | | | **Borehole diameter** | 18 cm | | | **Collar height** | 22 cm | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | Yes | - | No | - | | | | |
| **Reservoir & size** | - | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | X | Livestock watering | - | Domestic | - | **Other** | - |
| **Irrigation of crops** | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Anton Botha** | **Date sampled** | **12/04/2016** |
| **Sample type** | **Inorganic** | **Static water level** | **-** |
| **Short locality description: Borehole at the edge of Da Rocha Bros crop field** | | | |
| | | | |
| **Comments: Sampled at water storage dams. According to owner the borehole depth is between 70 -80 m.**<br><br>**Dry/mud at 26.62 m** | | | |

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office: 012 450 3800 • fax: 012 450 3851

| PROJECT DETAILS | Rietkol Project |
|---|---|

| Personal Details | | | | |
|---|---|---|---|---|
| **Physical address** | **MODDER EAST ORCHARDS AH, HOLDING 240, 241** | | | No Profile Picture Taken |
| **Postal address** | **-** | | | |
| **District/Town** | **Delmas, 2210** | | | |
| **Owner** | **Marius Roland** | | | |
| **Contact person** | **Marius Roland** | | | |
| **Cell** | **082 493 5253** | **Tel** | - | |
| **Fax** | - | | | |
| **E-mail** | rentiar@mfc.co.za | | | *Signature* |

**Locality Map**

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | BBH02A | | | | | | | |
| **Coordinates** | X-coordinate | 28.61397 | | Y-coordinate | 26.11336 | | Z-coordinate | 1580 | | | | |
| **Locality type** | Monitoring borehole | | | **Date drilled** | Unknown | | | | | | | |
| **Borehole depth** | 50 m | | **Borehole diameter** | 18 cm | | **Collar height** | - | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | Yes | - | No | - | | | | |
| **Reservoir & size** | 5000 l JOJO Tank | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | - | Livestock watering | - | Domestic | X | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Anton Botha** | **Date sampled** | **12/04/2016** |
| **Sample type** | **Inorganic** | **Static water level** | **-** |
| **Short locality description: Borehole west from house (Plot 241), inside locked cement building** | | | |
| | | | |
| **Comments: No access to water level due to pump installed.** | | | |

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | BBH02B | | | | | | | |
| **Coordinates** | X-coordinate | 28.61318 | | Y-coordinate | 26.11474 | | Z-coordinate | 1580 | | | | |
| **Locality type** | Borehole | | | **Date drilled** | Unknown | | | | | | | |
| **Borehole depth** | 60 - 70 m | | **Borehole diameter** | 18 cm | | **Collar height** | 15 cm | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | Yes | - | No | - | | | | |
| **Reservoir & size** | - | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | X | Livestock watering | - | Domestic | X | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Anton Botha** | **Date sampled** | **12/04/2016** |
| **Sample type** | **Inorganic** | **Static water level** | **25.27 m** |
| **Short locality description: Borehole south of owner's house (Plot 240)** | | | |
| | | | |
| **Comments: Borehole used for irrigation of crop production.** | | | |

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web: www.aquatico.co.za
office: 012 450 3800 • fax: 012 450 3851

| PROJECT DETAILS | Rietkol Project |
|---|---|

| Personal Details | | | | |
|---|---|---|---|---|
| **Physical address** | - | | | No Profile Picture Taken |
| **Postal address** | - | | | |
| **District/Town** | **DELMAS, 2210** | | | |
| **Owner** | **Joseph Coombie** | | | |
| **Contact person** | **Joseph Coombie** | | | |
| **Cell** | **083 408 2909** | **Tel** | **-** | |
| **Fax** | - | | | |
| **E-mail** | - | | | *Signature* |

**Locality Map**

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | | Grot | | | | | | |
| **Coordinates** | X-coordinate | 28.60554 | | Y-coordinate | 26.09984 | | Z-coordinate | 1571 | | | | |
| **Locality type** | Cave / Underground lake | | | **Date drilled** | | Unknown | | | | | | |
| **Borehole depth** | - | | **Borehole diameter** | Unknown | | **Collar height** | - | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | | Yes | - | No | - | | | |
| **Reservoir & size** | - | | | | | | | | | | | |
| **Liter** | Submersible | - | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | - | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | - | Livestock watering | - | Domestic | - | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Deon / Machiel** | **Date sampled** | **01/04/2016** |
| **Sample type** | **Inorganic** | **Static water level** | **-** |
| **Short locality description: Cave entrance on top of a hill, near old ruins** | | | |
| | | | |
| **Comments: Sample taken from inside cave** | | | |

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | | GrotBH | | | | | | |
| **Coordinates** | X-coordinate | 28.60586 | | Y-coordinate | 26.09969 | | Z-coordinate | 1570 | | | | |
| **Locality type** | Borehole | | | **Date drilled** | | Unknown | | | | | | |
| **Borehole depth** | - | | **Borehole diameter** | Unknown | | **Collar height** | - | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | | Yes | - | No | - | | | |
| **Reservoir & size** | None | | | | | | | | | | | |
| **Liter** | Submersible | - | Mono pump | X | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | - | No | X | **Other** | - | | |
| **Current and future use** | Irrigation | - | Livestock watering | - | Domestic | - | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Werner Rossouw** | **Date sampled** | **12/04/2016** |
| **Sample type** | **-** | **Static water level** | **23.50m** |
| **Short locality description: Old borehole at cave entrance.** | | | |
| | | | |
| **Comments: Borehole not in use. Old mono pump column still installed.** | | | |

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address: 69 regency drive, R21 corporate park, centurion
postal: p.o. box 905008, garsfontein, 0042
web: www.aquatico.co.za
office: 012 450 3800 • fax: 012 450 3851

| PROJECT DETAILS | Rietkol Project |
|---|---|

| Personal Details | | | | |
|---|---|---|---|---|
| **Physical address** | **MODDER EAST ORCHARDS AH, Portion 72, RIETKOL 237 IR** | | | No Profile Picture Taken |
| **Postal address** | **PO BOX 310, DELMAS, 2210** | | | |
| **District/Town** | **DELMAS, 2210** | | | |
| **Owner** | **Maria Johanna Du Plessis** | | | |
| **Contact person** | **Maria Johanna Du Plessis** | | | |
| **Cell** | **-** | **Tel** | **0136679003** | |
| **Fax** | - | | | |
| **E-mail** | - | | | *Signature* |

**Locality Map**

| Source Information | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | | Section 71-71.6 (Bh6) | | | | | | | |
| **Coordinates** | X-coordinate | 28.59887 | | Y-coordinate | -26.14014 | | Z-coordinate | - | | | | | |
| **Locality type** | Borehole | | | **Date drilled** | | Unknown | | | | | | | |
| **Borehole depth** | 63.55 m | | **Borehole diameter** | Unknown | | **Collar height** | - | | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | | Yes | - | No | - | | | | |
| **Reservoir & size** | - | | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | - | No | X | **Other** | - | | |
| **Current and future use** | Irrigation | - | Livestock watering | - | Domestic | - | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Carl / Coenie** | **Date sampled** | **30/01/2017** |
| **Sample type** | **Inorganic** | **Static water level** | **63.55 m** |
| **Short locality description: Borehole just outside section 72 gate** | | | |
| | | | |
| **Comments:** | | | |

| Source Information | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | | SECTION 72 -72.5 (BH5) | | | | | | | |
| **Coordinates** | X-coordinate | 28.59616 | | Y-coordinate | -26.14140 | | Z-coordinate | - | | | | | |
| **Locality type** | Borehole | | | **Date drilled** | | Unknown | | | | | | | |
| **Borehole depth** | 100 m (est.) | | **Borehole diameter** | 200 mm | | **Collar height** | 0 | | | | | | |
| **Estimated yield per hour** | 5000 l/hr (est.) | | | **Test certificate** | | Yes | - | No | - | | | | |
| **Reservoir & size** | | | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | | | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | X | Livestock watering | X | Domestic | - | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Carl / Coenie** | **Date sampled** | **30/01/2017** |
| **Sample type** | **Inorganic** | **Static water level** | **-** |
| **Short locality description: Borehole and tires surrounding for protection next to house fence** | | | |
| | | | |
| **Comments:** | | | |

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postal: p.o. box 905008, garsfontein, 0042
web: www.aquatico.co.za
office: 012 450 3800 • fax: 012 450 3851

| PROJECT DETAILS | Rietkol Project |
|---|---|

| Personal Details | | | | |
|---|---|---|---|---|
| **Physical address** | **MODDER EAST ORCHARDS AH, PORTIONS 63, 66, RIETKOL 237 IR** | | | No Profile Picture Taken |
| **Postal address** | **PO BOX 675, SPRINGS, 1560** | | | |
| **District/Town** | **DELMAS, 2210** | | | |
| **Owner** | **Louman Farm Property cc** | | | |
| **Contact person** | **Alberto Concalves Borrageiro** | | | |
| **Cell** | **0824153236** | **Tel** | **0136679016** | |
| **Fax** | - | | | |
| **E-mail** | | | | *Signature* |

**Locality Map**

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | | Section 63 – 63.1 | | | | | | |
| **Coordinates** | X-coordinate | 28.59255 | | Y-coordinate | -26.13624 | | Z-coordinate | - | | | | |
| **Locality type** | Borehole | | | **Date drilled** | | Unknown | | | | | | |
| **Borehole depth** | 37.40 m | | **Borehole diameter** | 200 mm | | **Collar height** | 0 mm | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | | Yes | - | No | - | | | |
| **Reservoir & size** | Dam | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | - | Livestock watering | - | Domestic | - | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | | |
|---|---|---|---|---|
| **Sampler** | **Carl / Coenie** | **Date sampled** | **31/01/2017** | **No Picture taken** |
| **Sample type** | **Inorganic** | **Static water level** | **37.40 m** | |
| **Short locality description: Borehole between crop fields** | | | | |
| | | | | |
| **Comments:** | | | | |

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | | Section 63 – 63.2 | | | | | | |
| **Coordinates** | X-coordinate | 28.59051 | | Y-coordinate | -26.13646 | | Z-coordinate | - | | | | |
| **Locality type** | Dam | | | **Date drilled** | | - | | | | | | |
| **Borehole depth** | - | | **Borehole diameter** | - | | **Collar height** | - | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | | Yes | - | No | - | | | |
| **Reservoir & size** | - | | | | | | | | | | | |
| **Liter** | Submersible | - | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | X | Livestock watering | - | Domestic | - | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | | |
|---|---|---|---|---|
| **Sampler** | **Carl / Coenie** | **Date sampled** | **31/01/2017** | **No Picture taken** |
| **Sample type** | **Inorganic** | **Static water level** | **-** | |
| **Short locality description: Dam next to crop fields** | | | | |
| | | | | |
| **Comments: Storage water for irrigation** | | | | |

| Source Information | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | | **Locality number** | Section 66-66.1 | | | | | | | | |
| **Coordinates** | X-coordinate | 28.59271 | | | Y-coordinate | -26.14003 | | | Z-coordinate | | | | | |
| **Locality type** | Dam | | | | **Date drilled** | - | | | | | | | | |
| **Borehole depth** | - | | | | **Borehole diameter** | - | | | **Collar height** | - | | | | |
| **Estimated yield per hour** | - | | | | **Test certificate** | Yes | - | No | - | | | | | |
| **Reservoir & size** | - | | | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | | | |

| Current* and Future Use Information | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | - | No | X | **Other** | - | | | |
| **Current and future use** | Irrigation | - | Livestock watering | - | Domestic | - | **Other** | - | |
| | | | | | | | | | |
| | | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Carl / Coenie** | **Date sampled** | **31/01/2017** |
| **Sample type** | **inorganic** | **Static water level** | **0** |
| **Short locality description: Dam in center of lands** | | | |
| | | | |
| **Comments:** | | | |

| Source Information | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | | **Locality number** | Section 66-66.2 | | | | | | | | |
| **Coordinates** | X-coordinate | 28.59257 | | | Y-coordinate | -26.13995 | | | Z-coordinate | - | | | | |
| **Locality type** | Borehole | | | | **Date drilled** | Unknown | | | | | | | | |
| **Borehole depth** | 92.41 m | | | | **Borehole diameter** | 260 mm | | | **Collar height** | - | | | | |
| **Estimated yield per hour** | - | | | | **Test certificate** | Yes | - | No | - | | | | | |
| **Reservoir & size** | Dam | | | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | | | |

| Current* and Future Use Information | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | | |
| **Current and future use** | Irrigation | X | Livestock watering | - | Domestic | - | **Other** | - | |
| | | | | | | | | | |
| | | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Carl / Coenie** | **Date sampled** | **31/01/2017** |
| **Sample type** | **-** | **Static water level** | **92.41 m** |
| **Short locality description: Borehole just below section 66.1 dam** | | | |
| | | | |
| **Comments:** | | | |

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leaders in environmental monitoring
address: 69 regency drive, R21 corporate park, centurion
postal: p.o. box 905008, garsfontein, 0042
web: www.aquatico.co.za
office: 012 450 3800 • fax: 012 450 3851

| PROJECT DETAILS | Rietkol Project |
|---|---|

| Personal Details | | | | |
|---|---|---|---|---|
| **Physical address** | **MODDER EAST ORCHARDS AH, FARM 1, GELUK 234IR, 2210 Portion 15,** | | | No Profile Picture Taken |
| **Postal address** | **PO BOX 98, DELMAS, 2210** | | | |
| **District/Town** | **DELMAS, 2210** | | | |
| **Owner** | **Martinuzzi** | | | |
| **Contact person** | **Alex Martinuzzi** | | | |
| **Cell** | **837023288** | **Tel** | **0136653580** | |
| **Fax** | - | | | |
| **E-mail** | **verde@global.co.za** | | | *Signature* |

**Locality Map**

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | | Section 15-15.1 | | | | | | |
| **Coordinates** | X-coordinate | 28.61934 | | Y-coordinate | -26.14734 | | Z-coordinate | - | | | | |
| **Locality type** | Borehole | | | **Date drilled** | | Unknown | | | | | | |
| **Borehole depth** | - | | **Borehole diameter** | Unknown | | **Collar height** | - | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | | Yes | - | No | - | | | |
| **Reservoir & size** | - | | | | | | | | | | | |
| **Liter** | Submersible | - | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | - | No | X | **Other** | - | | |
| **Current and future use** | Irrigation | - | Livestock watering | - | Domestic | - | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Carl / Coenie** | **Date sampled** | **31/01/2017** |
| **Sample type** | **Inorganic** | **Static water level** | **-** |
| **Short locality description:** | | | |
| | | | |
| **Comments:** | | | |

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | | Section 15-15.2 | | | | | | |
| **Coordinates** | X-coordinate | 28.61879 | | Y-coordinate | -26.14940 | | Z-coordinate | - | | | | |
| **Locality type** | Borehole | | | **Date drilled** | | Unknown | | | | | | |
| **Borehole depth** | - | | **Borehole diameter** | 200 mm | | **Collar height** | - | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | | Yes | - | No | - | | | |
| **Reservoir & size** | JoJo Tanks | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | - | Livestock watering | X | Domestic | X | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Carl / Coenie** | **Date sampled** | **31/01/2017** |
| **Sample type** | **Inorganic** | **Static water level** | **50 m** |
| **Short locality description: Borehole south of the buildings** | | | |
| | | | |
| **Comments:** | | | |

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | | Section 15-15.3 | | | | | | |
| **Coordinates** | X-coordinate | 28.60956 | | Y-coordinate | -26.14877 | | Z-coordinate | - | | | | |
| **Locality type** | Borehole | | | **Date drilled** | | Unknown | | | | | | |
| **Borehole depth** | - | | **Borehole diameter** | 200 mm | | **Collar height** | 500 mm | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | | Yes | - | No | - | | | |
| **Reservoir & size** | - | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | - | No | X | **Other** | - | | |
| **Current and future use** | Irrigation | - | Livestock watering | - | Domestic | - | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | | |
|---|---|---|---|---|
| **Sampler** | **Carl / Coenie** | **Date sampled** | **31/01/2017** | **No locality photo** |
| **Sample type** | **Inorganic** | **Static water level** | **15.85 m** | |
| **Short locality description: Borehole next to road across from Rossgro building** | | | | |
| | | | | |
| **Comments:** | | | | |

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web: www.aquatico.co.za
office: 012 450 3800 • fax: 012 450 3851

| PROJECT DETAILS | Rietkol Project |
|---|---|

| Personal Details | | | | |
|---|---|---|---|---|
| **Physical address** | **MODDER EAST ORCHARDS AH, Portion 103, RIETKOL 237 IR** | | | No Profile Picture Taken |
| **Postal address** | **PO BOX 828, DELMAS, 2210** | | | |
| **District/Town** | **DELMAS, 2210** | | | |
| **Owner** | **Rossgro Voere Pty Ltd** | | | |
| **Contact person** | **Chris Rossouw** | | | |
| **Cell** | **0832727776** | **Tel** | **0136651999 / 0136656800** | |
| **Fax** | - | | | |
| **E-mail** | janice@rossgro.co.za | | | *Signature* |

**Locality Map**

| Source Information | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | | **Locality number** | Residence 01 | | | | | | | |
| **Coordinates** | X-coordinate | 28.61310 | | | Y-coordinate | -26.13716 | | | Z-coordinate | - | | | |
| **Locality type** | Borehole | | | | **Date drilled** | Unknown | | | | | | | |
| **Borehole depth** | - | | | | **Borehole diameter** | 200 mm | | | **Collar height** | 0 mm | | | |
| **Estimated yield per hour** | - | | | | **Test certificate** | Yes | - | No | - | | | | |
| **Reservoir & size** | - | | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | - | No | X | **Other** | - | | |
| **Current and future use** | Irrigation | - | Livestock watering | - | Domestic | - | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Carl / Coenie** | **Date sampled** | **30/01/2017** |
| **Sample type** | **Inorganic** | **Static water level** | **8.85 m** |
| **Short locality description: Borehole under play tower at section 71 residence** | | | |
| | | | |
| **Comments:** | | | |

| Source Information | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | | **Locality number** | Residence 02 | | | | | | | |
| **Coordinates** | X-coordinate | 28.61264 | | | Y-coordinate | -26.13763 | | | Z-coordinate | - | | | |
| **Locality type** | Borehole | | | | **Date drilled** | Unknown | | | | | | | |
| **Borehole depth** | N/A | | | | **Borehole diameter** | 200 mm | | | **Collar height** | 100 mm | | | |
| **Estimated yield per hour** | - | | | | **Test certificate** | Yes | - | No | - | | | | |
| **Reservoir & size** | N/A | | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | X | Livestock watering | X | Domestic | X | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Carl / Coenie** | **Date sampled** | **30/01/2017** |
| **Sample type** | **Inorganic** | **Static water level** | |
| **Short locality description: Borehole in pump house in front of residence** | | | |
| | | | |
| **Comments:** | | | |

| Source Information | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | | **Locality number** | | DAM SECTION 71 (237/1) | | | | | | | |
| **Coordinates** | X-coordinate | 28.60615 | | | Y-coordinate | -26.14506 | | | Z-coordinate | - | | | | |
| **Locality type** | DAM | | | | **Date drilled** | | Unknown | | | | | | | |
| **Borehole depth** | - | | **Borehole diameter** | - | | | **Collar height** | - | | | | | | |
| **Estimated yield per hour** | - | | | | **Test certificate** | | Yes | - | No | - | | | | |
| **Reservoir & size** | DAM | | | | | | | | | | | | | |
| **Liter** | Submersible | - | Mono pump | - | Windmill | - | Hand pump | - | Other | DAM | | | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | X | Livestock watering | - | Domestic | - | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Carl / Coenie** | **Date sampled** | **30/01/2017** |
| **Sample type** | **Inorganic** | **Static water level** | **-** |
| **Short locality description: Ground dam near plant, used for irrigation** | | | |
| | | | |
| **Comments: Also part of section 237** | | | |

| Source Information | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | | **Locality number** | | GELUK SECTION 2 (2.1) | | | | | | | |
| **Coordinates** | X-coordinate | 28.59647 | | | Y-coordinate | -26.13216 | | | Z-coordinate | - | | | | |
| **Locality type** | Borehole | | | | **Date drilled** | | Unknown | | | | | | | |
| **Borehole depth** | - | | **Borehole diameter** | 160 mm | | | **Collar height** | 0 | | | | | | |
| **Estimated yield per hour** | 60 l/min (est) | | | | **Test certificate** | | Yes | - | No | - | | | | |
| **Reservoir & size** | | | | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | | | | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | | | |
| **Current and future use** | Irrigation | - | Livestock watering | X | Domestic | X | **Other** | - |
| Chicken farming | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Carl / Coenie** | **Date sampled** | **30/01/2017** |
| **Sample type** | **Inorganic** | **Static water level** | **22.14 m** |
| **Short locality description: Borehole next to old pump and reservoir** | | | |
| | | | |
| **Comments:** | | | |

**No locality photo**

| Source Information | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | | **Locality number** | Section 71 – 71.4 (BH4) | | | | | | | |
| **Coordinates** | X-coordinate | 28.60976 | | | Y-coordinate | -26.14612 | | | Z-coordinate | - | | | |
| **Locality type** | Borehole | | | | **Date drilled** | Unknown | | | | | | | |
| **Borehole depth** | N/A | | | | **Borehole diameter** | 300 mm | | | **Collar height** | 500 mm | | | |
| **Estimated yield per hour** | - | | | | **Test certificate** | Yes | - | No | - | | | | |
| **Reservoir & size** | N/A | | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | X | Livestock watering | - | Domestic | X | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Carl / Coenie** | **Date sampled** | **30/01/2017** |
| **Sample type** | **Inorganic** | **Static water level** | |
| **Short locality description: Large BH south of the plant. (Small building enclosure)** | | | |
| | | | |
| **Comments:** | | | |

| Source Information | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | | **Locality number** | Section 31-31.1 | | | | | | | |
| **Coordinates** | X-coordinate | 28.60577 | | | Y-coordinate | -26.15631 | | | Z-coordinate | - | | | |
| **Locality type** | Borehole | | | | **Date drilled** | Unknown | | | | | | | |
| **Borehole depth** | 120 m | | | | **Borehole diameter** | 200 mm | | | **Collar height** | 0 mm | | | |
| **Estimated yield per hour** | 110 000 l/hr | | | | **Test certificate** | Yes | - | No | - | | | | |
| **Reservoir & size** | - | | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | X | Livestock watering | - | Domestic | - | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Carl / Coenie** | **Date sampled** | **30/01/2017** |
| **Sample type** | **inorganic** | **Static water level** | **54.65 m** |
| **Short locality description:** | | | |
| | | | |
| **Comments:** | | | |

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | Section 31-31.2 | | | | | | | |
| **Coordinates** | X-coordinate | 28.60762 | | Y-coordinate | -26.15184 | | Z-coordinate | - | | | | |
| **Locality type** | Borehole | | | **Date drilled** | Unknown | | | | | | | |
| **Borehole depth** | 68 m | | **Borehole diameter** | 200 mm | | **Collar height** | 0 mm | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | Yes | - | No | - | | | | |
| **Reservoir & size** | Dam | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | X | Livestock watering | - | Domestic | - | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Carl / Coenie** | **Date sampled** | **31/01/2017** |
| **Sample type** | **-** | **Static water level** | **48.29 m** |
| **Short locality description:** | | | |
| | | | |
| **Comments: 15 Kw motor fitted to pump** | | | |

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | Section 31-31.3 (BH3) | | | | | | | |
| **Coordinates** | X-coordinate | 28.60813 | | Y-coordinate | -26.15101 | | Z-coordinate | - | | | | |
| **Locality type** | Borehole | | | **Date drilled** | Unknown | | | | | | | |
| **Borehole depth** | 64 m | | **Borehole diameter** | 200 mm | | **Collar height** | 200 mm | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | Yes | - | No | - | | | | |
| **Reservoir & size** | N/A | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | - | Livestock watering | X | Domestic | - | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Carl / Coenie** | **Date sampled** | **30/01/2017** |
| **Sample type** | **Inorganic** | **Static water level** | **47.98 m** |
| **Short locality description: BH3 next to road at entrance next to transformer from road** | | | |
| | | | |
| **Comments: 9AMP 40KW motor** | | | |

| Source Information | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | | Section 24-24.13 | | | | | | | | |
| **Coordinates** | X-coordinate | 28.62518 | | Y-coordinate | -26.14590 | | Z-coordinate | - | | | | | | |
| **Locality type** | Borehole | | | **Date drilled** | | Unknown | | | | | | | | |
| **Borehole depth** | - | | **Borehole diameter** | 200 mm | | **Collar height** | 0 m | | | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | | Yes | - | No | - | | | | | |
| **Reservoir & size** | JoJo tanks | | | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | - | Livestock watering | - | Domestic | X | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | | |
|---|---|---|---|---|
| **Sampler** | **Carl / Coenie** | **Date sampled** | **31/01/2017** | **No locality photo** |
| **Sample type** | **Inorganic** | **Static water level** | **49 m** | |
| **Short locality description: Borehole in front of Rossouw Boerdery head office** | | | | |
| | | | | |
| **Comments:** | | | | |

| Source Information | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | | Section 24 – 24.03 | | | | | | | | |
| **Coordinates** | X-coordinate | 28.62339 | | Y-coordinate | -26.12728 | | Z-coordinate | - | | | | | | |
| **Locality type** | Borehole | | | **Date drilled** | | Unknown | | | | | | | | |
| **Borehole depth** | - | | **Borehole diameter** | - | | **Collar height** | - | | | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | | Yes | - | No | - | | | | | |
| **Reservoir & size** | N/A | | | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | - | No | X | **Other** | - | | |
| **Current and future use** | Irrigation | - | Livestock watering | - | Domestic | - | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | | |
|---|---|---|---|---|
| **Sampler** | **Carl / Coenie** | **Date sampled** | **30/01/2017** |  |
| **Sample type** | **Sample not taken** | **Static water level** | **-** | |
| **Short locality description:** | | | | |
| | | | | |
| **Comments: Borehole blocked** | | | | |

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | | Section 24 -24.2 | | | | | | |
| **Coordinates** | X-coordinate | 28.62187 | | Y-coordinate | -26.12685 | | Z-coordinate | - | | | | |
| **Locality type** | Borehole | | | **Date drilled** | | Unknown | | | | | | |
| **Borehole depth** | 108 m | | **Borehole diameter** | Unknown | | **Collar height** | - | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | | Yes | - | No | - | | | |
| **Reservoir & size** | Dam and tanks | | | | | | | | | | | |
| **Liter** | Submersible | - | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | X | Livestock watering | - | Domestic | X | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Carl / Coenie** | **Date sampled** | **31/01/2017** |
| **Sample type** | **-** | **Static water level** | **-** |
| **Short locality description:** | | | |
| | | | |
| **Comments: No sample taken** | | | |

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | | Section 24-24.4 | | | | | | |
| **Coordinates** | X-coordinate | 28.62404 | | Y-coordinate | -26.12729 | | Z-coordinate | - | | | | |
| **Locality type** | Borehole | | | **Date drilled** | | Unknown | | | | | | |
| **Borehole depth** | 52.30 m | | **Borehole diameter** | 200 mm | | **Collar height** | 0 mm | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | | Yes | - | No | - | | | |
| **Reservoir & size** | Dam | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | X | Livestock watering | - | Domestic | - | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Carl / Coenie** | **Date sampled** | **31/01/2017** |
| **Sample type** | **-** | **Static water level** | **52.30 m** |
| **Short locality description:** | | | |
| | | | |
| **Comments: No sample taken, pump was off at time of sampling and no access could be gained** | | | |

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | Section 24 – 24.5 | | | | | | | |
| **Coordinates** | X-coordinate | 28.63612 | | Y-coordinate | -26.14266 | | Z-coordinate | - | | | | |
| **Locality type** | Borehole | | | **Date drilled** | 2008 (est.) | | | | | | | |
| **Borehole depth** | 95 m (est.) | | **Borehole diameter** | 300 mm | | **Collar height** | 600 mm | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | Yes | - | No | - | | | | |
| **Reservoir & size** | TANKS | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | X | **Other** | - | | |
| **Current and future use** | Irrigation | X | Livestock watering | - | Domestic | X | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Carl / Coenie** | **Date sampled** | **30/01/2017** |
| **Sample type** | **Inorganic** | **Static water level** | **74.5m** |
| **Short locality description: 22 kw motor** | | | |
| | | | |
| **Comments:** | | | |

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | Section 24 – 24.6 | | | | | | | |
| **Coordinates** | X-coordinate | 28.63707 | | Y-coordinate | -26.14389 | | Z-coordinate | - | | | | |
| **Locality type** | Borehole | | | **Date drilled** | Unknown | | | | | | | |
| **Borehole depth** | - | | **Borehole diameter** | 300 mm | | **Collar height** | 500 mm | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | Yes | - | No | - | | | | |
| **Reservoir & size** | N/A | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | - | No | X | **Other** | - | | |
| **Current and future use** | Irrigation | - | Livestock watering | - | Domestic | - | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Carl / Coenie** | **Date sampled** | **30/01/2017** |
| **Sample type** | **Inorganic** | **Static water level** | **92 m** |
| **Short locality description: Borehole on the backyard of small building near 24.5 and 24.7** | | | |
| | | | |
| **Comments: Borehole not in use** | | | |

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | | Section 24 – 24.7 | | | | | | |
| **Coordinates** | X-coordinate | 28.63584 | | Y-coordinate | -26.14271 | | Z-coordinate | - | | | | |
| **Locality type** | Borehole | | | **Date drilled** | | Unknown | | | | | | |
| **Borehole depth** | 202 m | | **Borehole diameter** | 220-260 mm | | **Collar height** | 350 mm | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | | Yes | - | No | - | | | |
| **Reservoir & size** | N/A | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | - | No | X | **Other** | - | | |
| **Current and future use** | Irrigation | - | Livestock watering | - | Domestic | - | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Carl / Coenie** | **Date sampled** | **30/01/2017** |
| **Sample type** | **Inorganic** | **Static water level** | **83.30 m** |
| **Short locality description: Newly drilled borehole** | | | |
| | | | |
| **Comments:** | | | |

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | | Section 24 – 24.8 | | | | | | |
| **Coordinates** | X-coordinate | 28.63618 | | Y-coordinate | -26.14373 | | Z-coordinate | - | | | | |
| **Locality type** | Borehole | | | **Date drilled** | | Unknown | | | | | | |
| **Borehole depth** | - | | **Borehole diameter** | 200 mm | | **Collar height** | - | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | | Yes | - | No | - | | | |
| **Reservoir & size** | N/A | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | - | No | X | **Other** | - | | |
| **Current and future use** | Irrigation | - | Livestock watering | - | Domestic | - | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Carl / Coenie** | **Date sampled** | **30/01/2017** |
| **Sample type** | **-** | **Static water level** | **59 m** |
| **Short locality description:** | | | |
| | | | |
| **Comments: Borehole not in use. Not sampled, closed** | | | |

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | | Section 24 – 24.9 | | | | | | |
| **Coordinates** | X-coordinate | 28.63633 | | Y-coordinate | -26.13684 | | Z-coordinate | - | | | | |
| **Locality type** | Borehole | | | **Date drilled** | | Unknown | | | | | | |
| **Borehole depth** | 200 m (est.) | | **Borehole diameter** | 260 mm | | **Collar height** | 150 mm | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | | Yes | - | No | - | | | |
| **Reservoir & size** | Dam | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | X | Livestock watering | - | Domestic | - | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Carl / Coenie** | **Date sampled** | **30/01/2017** |
| **Sample type** | **Inorganic** | **Static water level** | **-** |
| **Short locality description: Double drilled boreholes next to road and power line.** | | | |
| | | | |
| **Comments:** | | | |

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | | Section 24 – 24.10 | | | | | | |
| **Coordinates** | X-coordinate | 28.63650 | | Y-coordinate | -26.13503 | | Z-coordinate | - | | | | |
| **Locality type** | DAM | | | **Date drilled** | | Unknown | | | | | | |
| **Borehole depth** | - | | **Borehole diameter** | - | | **Collar height** | - | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | | Yes | - | No | - | | | |
| **Reservoir & size** | DAM | | | | | | | | | | | |
| **Liter** | Submersible | - | Mono pump | - | Windmill | - | Hand pump | - | Other | DAM10 | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | X | Livestock watering | - | Domestic | - | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Carl / Coenie** | **Date sampled** | **30/01/2017** |
| **Sample type** | **Inorganic** | **Static water level** | **0** |
| **Short locality description: Dam at pumphouse** | | | |
| | | | |
| **Comments: Dam 10** | | | |

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | | **Locality number** | Section 24 – 24.11 | | | | | | |
| **Coordinates** | X-coordinate | 28.63667 | | | Y-coordinate | -26.13357 | | | Z-coordinate | - | | |
| **Locality type** | Borehole | | | | **Date drilled** | Unknown | | | | | | |
| **Borehole depth** | - | | | **Borehole diameter** | 260 mm | | | **Collar height** | - | | | |
| **Estimated yield per hour** | - | | | | **Test certificate** | Yes | - | No | - | | | |
| **Reservoir & size** | DAM10 | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | DAM10 | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | - | No | X | **Other** | - | | |
| **Current and future use** | Irrigation | - | Livestock watering | - | Domestic | - | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Carl / Coenie** | **Date sampled** | **30/01/2017** |
| **Sample type** | **Inorganic** | **Static water level** | **-** |
| **Short locality description:** | | | |
| | | | |
| **Comments:** | | | |

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | | **Locality number** | Section 24 – 24.12 | | | | | | |
| **Coordinates** | X-coordinate | 28.63686 | | | Y-coordinate | -26.13310 | | | Z-coordinate | - | | |
| **Locality type** | Borehole | | | | **Date drilled** | Unknown | | | | | | |
| **Borehole depth** | - | | | **Borehole diameter** | 260 mm | | | **Collar height** | - | | | |
| **Estimated yield per hour** | - | | | | **Test certificate** | Yes | - | No | - | | | |
| **Reservoir & size** | DAM10 | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | - | No | X | **Other** | - | | |
| **Current and future use** | Irrigation | - | Livestock watering | - | Domestic | - | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Carl / Coenie** | **Date sampled** | **30/01/2017** |
| **Sample type** | **Inorganic** | **Static water level** | **-** |
| **Short locality description:** | | | |
| | | | |
| **Comments:** | | | |

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | GELUK SECTION 24 -24.1 | | | | | | | |
| **Coordinates** | X-coordinate | - | | Y-coordinate | - | | | Z-coordinate | - | | | |
| **Locality type** | Borehole | | | **Date drilled** | Unknown | | | | | | | |
| **Borehole depth** | - | | **Borehole diameter** | 200 mm | | | **Collar height** | 200 m | | | | |
| **Estimated yield per hour** | 60l/min (est) | | | **Test certificate** | Yes | - | No | - | | | | |
| **Reservoir & size** | - | | | | | | | | | | | |
| **Liter** | Submersible | - | Mono pump | - | Windmill | - | Hand pump | - | Other | | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | - | No | - | **Other** | | | |
| **Current and future use** | Irrigation | - | Livestock watering | - | Domestic | - | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | | |
|---|---|---|---|---|
| **Sampler** | **Carl / Coenie** | **Date sampled** | **30/01/2017** | **No locality photo** |
| **Sample type** | **Inorganic** | **Static water level** | **42 m** | |
| **Short locality description:** | | | | |
| | | | | |
| **Comments:** | | | | |

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leaders in environmental monitoring
address: 69 regency drive, R21 corporate park, centurion
postal: p.o. box 905008, garsfontein, 0042
web: www.aquatico.co.za
office: 012 450 3800 • fax: 012 450 3851

| PROJECT DETAILS | Rietkol Project |
|---|---|

| Personal Details | | | | |
|---|---|---|---|---|
| **Physical address** | **MODDER EAST ORCHARDS AH, HOLDING 276** | | | No Profile Picture Taken |
| **Postal address** | | | | |
| **District/Town** | **DELMAS, 2210** | | | |
| **Owner** | **Pieter Fourie** | | | |
| **Contact person** | **Tienie Fourie** | | | |
| **Cell** | **082 924 3100** | **Tel** | | |
| **Fax** | - | | | |
| **E-mail** | | | | *Signature* |

**Locality Map**

| Source Information | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | | **Locality number** | | PF 276.1 | | | | | | | |
| **Coordinates** | X-coordinate | 28.61821 | | | Y-coordinate | 26.12791 | | | Z-coordinate | - | | | | |
| **Locality type** | Borehole | | | | **Date drilled** | | Unknown | | | | | | | |
| **Borehole depth** | 220 m | | | | **Borehole diameter** | 38 cm | | | **Collar height** | 38 cm | | | | |
| **Estimated yield per hour** | 24 000 liters | | | | **Test certificate** | | Yes | - | No | X | | | | |
| **Reservoir & size** | 20 000 liters | | | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | - | Livestock watering | - | Domestic | X | **Other** | Work |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Jean-Erik** | **Date sampled** | **16/03/2018** |
| **Sample type** | **Inorganic** | **Static water level** | **-** |
| **Short locality description: Hoewe 276. Borehole behind workshop** | | | |
| | | | |
| **Comments: Sample taken** | | | |

| Source Information | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | | **Locality number** | | PF 276.2 | | | | | | | |
| **Coordinates** | X-coordinate | 28.61858 | | | Y-coordinate | 26.12735 | | | Z-coordinate | | | | | |
| **Locality type** | Borehole | | | | **Date drilled** | | Unknown | | | | | | | |
| **Borehole depth** | Est. 75 m | | | | **Borehole diameter** | 20.3 cm | | | **Collar height** | 28 cm | | | | |
| **Estimated yield per hour** | 6000 liters | | | | **Test certificate** | | Yes | - | No | - | | | | |
| **Reservoir & size** | None | | | | | | | | | | | | | |
| **Liter** | Submersible | - | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | | | |

| Current and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | - | No | X | **Other** | - | | |
| **Current and future use** | Irrigation | - | Livestock watering | - | Domestic | - | **Other** | - |
| **Future use when other borehole dries up** | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Jean-Erik** | **Date sampled** | **16/03/2018** |
| **Sample type** | **inorganic** | **Static water level** | **20.20 m** |
| **Short locality description: Hoewe 276. Borehole next to workshop** | | | |
| | | | |
| **Comments: Sample taken** | | | |

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leaders in environmental monitoring
address: 69 regency drive, R21 corporate park, centurion
postal: p.o. box 905008, garsfontein, 0042
web: www.aquatico.co.za
office: 012 450 3800 • fax: 012 450 3851

| PROJECT DETAILS | Rietkol Project |
|---|---|

| Personal Details | | | | |
|---|---|---|---|---|
| **Physical address** | **MODDER EAST ORCHARDS AH, HOLDING 277** | | | No Profile Picture Taken |
| **Postal address** | | | | |
| **District/Town** | **DELMAS, 2210** | | | |
| **Owner** | **Dr. Kobus Greeff** | | | |
| **Contact person** | **Dr. Kobus Greeff** | | | |
| **Cell** | **081 861 5600** | **Tel** | | |
| **Fax** | - | | | |
| **E-mail** | - | | | *Signature* |

**Locality Map**

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | KG 277 | | | | | | | |
| **Coordinates** | X-coordinate | 28.61543 | | Y-coordinate | 26.12689 | | Z-coordinate | - | | | | |
| **Locality type** | Borehole | | | **Date drilled** | Unknown | | | | | | | |
| **Borehole depth** | - | | **Borehole diameter** | - | | **Collar height** | - | | | | | |
| **Estimated yield per hour** | 24 000 liters | | | **Test certificate** | Yes | - | No | X | | | | |
| **Reservoir & size** | 20 000 liters | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | - | Livestock watering | - | Domestic | X | **Other** | Work |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Jean-Erik** | **Date sampled** | **16/03/2018** |
| **Sample type** | **Inorganic** | **Static water level** | **-** |
| **Short locality description: Hoewe 277. Borehole next to house** | | | |
| | | | |
| **Comments: Sample taken** | | | |

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leaders in environmental monitoring
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postal: p.o. box 905008, garsfontein, 0042
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office: 012 450 3800 • fax: 012 450 3851

| PROJECT DETAILS | Rietkol Project |
|---|---|

| Personal Details | | | | |
|---|---|---|---|---|
| **Physical address** | **MODDER EAST ORCHARDS AH, HOLDING 282** | | | No Profile Picture Taken |
| **Postal address** | | | | |
| **District/Town** | **DELMAS, 2210** | | | |
| **Owner** | **Riaan Fisher** | | | |
| **Contact person** | **Riaan Fisher** | | | |
| **Cell** | **-** | **Tel** | **-** | |
| **Fax** | - | | | |
| **E-mail** | - | | | *Signature* |

**Locality Map**

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | | RF282.1 | | | | | | |
| **Coordinates** | X-coordinate | 28.61396 | | Y-coordinate | 26.12995 | | Z-coordinate | - | | | | |
| **Locality type** | Borehole | | | **Date drilled** | | Unknown | | | | | | |
| **Borehole depth** | 150 m | | **Borehole diameter** | - | | **Collar height** | - | | | | | |
| **Estimated yield per hour** | 960 liters | | | **Test certificate** | | Yes | - | No | - | | | |
| **Reservoir & size** | - | | | | | | | | | | | |
| **Liter** | Submersible | - | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | - | No | X | **Other** | - | | |
| **Current and future use** | Irrigation | - | Livestock watering | - | Domestic | - | **Other** | - |
| **Not in use. Planned future domestic.** | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | | |
|---|---|---|---|---|
| **Sampler** | **-** | **Date sampled** | **20/03/2018** |  |
| **Sample type** | **Inorganic** | **Static water level** | **46.84 m** | |
| **Short locality description: Hoewe 282** | | | | |
| | | | | |
| **Comments: Sample taken** | | | | |

| Source Information | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | | RF282.2 | | | | | | |
| **Coordinates** | X-coordinate | 28.61343 | | Y-coordinate | 26.13052 | | Z-coordinate | - | | | | |
| **Locality type** | Borehole | | | **Date drilled** | | Unknown | | | | | | |
| **Borehole depth** | Unknown | | **Borehole diameter** | - | | **Collar height** | - | | | | | |
| **Estimated yield per hour** | Unknown | | | **Test certificate** | | Yes | - | No | - | | | |
| **Reservoir & size** | None | | | | | | | | | | | |
| **Liter** | Submersible | - | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | |

| Current and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | - | No | X | **Other** | - | | |
| **Current and future use** | Irrigation | - | Livestock watering | - | Domestic | - | **Other** | - |
| **Not in use** | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | | |
|---|---|---|---|---|
| **Sampler** | **-** | **Date sampled** | **20/03/2018** |  |
| **Sample type** | **-** | **Static water level** | **8.5 m** | |
| **Short locality description: Hoewe 282** | | | | |
| | | | | |
| **Comments: Sample not taken. Borehole caved in at 11.6 mbs** | | | | |

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leaders in environmental monitoring
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postal: p.o. box 905008, garsfontein, 0042
web: www.aquatico.co.za
office: 012 450 3800 • fax: 012 450 3851

| PROJECT DETAILS | Rietkol Project |
|---|---|

| Personal Details | | | | |
|---|---|---|---|---|
| **Physical address** | **MODDER EAST ORCHARDS AH, HOLDINGS 158, 160 ,161** | | | No Profile Picture Taken |
| **Postal address** | | | | |
| **District/Town** | **DELMAS, 2210** | | | |
| **Owner** | **Sarel Kritzinger** | | | |
| **Contact person** | **Sarel Kritzinger** | | | |
| **Cell** | **082 412 2575** | **Tel** | | |
| **Fax** | - | | | |
| **E-mail** | | | | *Signature* |

**Locality Map**

| Source Information | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | SK 160 | | | | | | | | |
| **Coordinates** | X-coordinate | 28.60494 | | Y-coordinate | 26.11764 | | Z-coordinate | - | | | | | |
| **Locality type** | Borehole | | | **Date drilled** | Unknown | | | | | | | | |
| **Borehole depth** | - | | **Borehole diameter** | 16 cm | | **Collar height** | 30 cm | | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | Yes | - | No | X | | | | | |
| **Reservoir & size** | - | | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | X | No | - | **Other** | - | | |
| **Current and future use** | Irrigation | X | Livestock watering | X | Domestic | X | **Other** | - |
| | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Jean-Erik** | **Date sampled** | **16/03/2018** |
| **Sample type** | **-** | **Static water level** | **-** |
| **Short locality description: Hoewe 160. Situated in a field next to the road.** | | | |
| | | | |
| **Comments: Submersible pump used for irrigation, domestic and livestock use. No sample taken.** | | | |

| Source Information | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project** | Rietkol Project | | | **Locality number** | SK 158 | | | | | | | | |
| **Coordinates** | X-coordinate | 28.60101 | | Y-coordinate | 26.11829 | | Z-coordinate | | | | | | |
| **Locality type** | Borehole | | | **Date drilled** | Unknown | | | | | | | | |
| **Borehole depth** | Est. 81.69 m | | **Borehole diameter** | Unknown | | **Collar height** | - | | | | | | |
| **Estimated yield per hour** | - | | | **Test certificate** | Yes | - | No | - | | | | | |
| **Reservoir & size** | None | | | | | | | | | | | | |
| **Liter** | Submersible | X | Mono pump | - | Windmill | - | Hand pump | - | Other | - | | | |

| Current* and Future Use Information | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **In use** | Yes | - | No | X | **Other** | - | | |
| **Current and future use** | Irrigation | - | Livestock watering | - | Domestic | - | **Other** | - |
| **Planned to be used from June 2018** | | | | | | | | |
| | | | | | | | | |

| Sampling Information | | | |
|---|---|---|---|
| **Sampler** | **Jean-Erik** | **Date sampled** | **16/03/2018** |
| **Sample type** | **-** | **Static water level** | **41.25 m** |
| **Short locality description: Hoewe 158.** | | | |
| | | | |
| **Comments: Borehole is covered by soil, has a fitting and will be used in the future. No sample taken.** | | | |

# Appendix E

*Test reports*

aquatico Laboratories (Pty). Ltd.

ilac-MRA sanas Testing Laboratory T0685

## Test Report



**Client:** Groundwater Complete
**Address:** Plot 9, Riversdale , 6670
**Report no:** 30522
**Project:** Groundwater complete - Rietkol Hydrocencus

**Date of certificate:** 25 April 2016
**Date accepted:** 18 April 2016
**Date completed:** 25 April 2016
**Revision:** 0

| | Analyses | Unit | Method | 255607 | 255608 | 255609 | 255610 | 255611 | 255612 | 255613 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Lab no:** | | | | 255607 | 255608 | 255609 | 255610 | 255611 | 255612 | 255613 |
| **Date sampled:** | | | | 10-Apr-16 | 10-Apr-16 | 10-Apr-16 | 10-Apr-16 | 10-Apr-16 | 10-Apr-16 | 10-Apr-16 |
| **Sample type:** | | | | Water | Water | Water | Water | Water | Water | Water |
| **Locality description:** | | | | 148PB1 | 202Unex2 | 208BM | 153MT2 | 213JW1 | 229HDP | 222PK |
| A | pH @ 25°C | pH | ALM 20 | 7.42 | 7.30 | 8.00 | 7.53 | 7.85 | 8.78 | 6.95 |
| A | Electrical conductivity (EC) @ 25°C | mS/m | ALM 20 | 45.2 | 19.6 | 38.3 | 37.7 | 32.7 | 21.3 | 38.1 |
| A | Total dissolved solids (TDS) | mg/l | ALM 26 | 264 | 120 | 216 | 211 | 173 | 127 | 209 |
| A | Total alkalinity | mg $CaCO_3$/l | ALM 01 | 166 | 34.7 | 183 | 204 | 155 | 99.4 | 168 |
| A | Chloride (Cl) | mg/l | ALM 02 | 14.9 | 7.50 | 6.26 | 2.33 | 1.84 | 1.93 | 20.8 |
| A | Sulphate ($SO_4$) | mg/l | ALM 03 | 7.03 | 3.86 | 12.0 | 4.67 | 14.7 | 5.62 | 5.13 |
| A | Nitrate ($NO_3$) as N | mg/l | ALM 06 | 11.7 | 12.1 | 2.61 | 0.734 | 0.305 | 3.01 | 1.28 |
| A | Ammonium ($NH_4$) as N | mg/l | ALM 05 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| A | Orthophosphate ($PO_4$) as P | mg/l | ALM 04 | 0.055 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| A | Fluoride (F) | mg/l | ALM 08 | <0.142 | 0.183 | 0.201 | 0.230 | 0.171 | <0.142 | 0.490 |
| A | Calcium (Ca) | mg/l | ALM 30 | 48.7 | 17.6 | 35.8 | 42.0 | 35.0 | 11.6 | 36.3 |
| A | Magnesium (Mg) | mg/l | ALM 30 | 27.6 | 10.7 | 31.5 | 28.4 | 21.5 | 7.84 | 22.5 |
| A | Sodium (Na) | mg/l | ALM 30 | 9.48 | 4.57 | 6.68 | 5.37 | 2.71 | 25.8 | 13.7 |
| A | Potassium (K) | mg/l | ALM 30 | 2.80 | 0.676 | 0.898 | 0.925 | 0.937 | 0.562 | 2.00 |
| A | Aluminium (Al) | mg/l | ALM 31 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| A | Iron (Fe) | mg/l | ALM 31 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 |
| A | Manganese (Mn) | mg/l | ALM 31 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| A | Chromium (Cr) | mg/l | ALM 31 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 |
| A | Copper (Cu) | mg/l | ALM 31 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | 0.922 |
| A | Nickel (Ni) | mg/l | ALM 31 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| A | Total hardness | mg $CaCO_3$/l | ALM 26 | 235 | 88 | 219 | 222 | 176 | 61 | 183 |

A = Accredited N = Non accredited O = Outsourced S = Sub-contracted NR = Not requested RTF = Results to follow NATD = Not able to determine
The results relates only to the test item tested.
Results reported against the limit of detection.
Results marked 'Not SANAS Accredited' in this report are not included in the SANAS Schedule of Accreditation for this laboratory.
Uncertainty of measurement available on request for all methods included in the SANAS Schedule of Accreditation.

**Client:** Groundwater Complete
**Address:** Plot 9, Riversdale , 6670
**Report no:** 30522
**Project:** Groundwater complete - Rietkol Hydrocencus

**Date of certificate:** 25 April 2016
**Date accepted:** 18 April 2016
**Date completed:** 25 April 2016
**Revision:** 0

| | | | | | | |
|---|---|---|---|---|---|---|
| **Lab no:** | | | | 255614 | 255615 | 255616 |
| **Date sampled:** | | | | 10-Apr-16 | 10-Apr-16 | 10-Apr-16 |
| **Sample type:** | | | | Water | Water | Water |
| **Locality description:** | | | | 226BKM | 235LP3 | 278JDP02 |
| | **Analyses** | **Unit** | **Method** | | | |
| A | pH @ 25°C | pH | ALM 20 | 8.13 | 8.24 | 8.62 |
| A | Electrical conductivity (EC) @ 25°C | mS/m | ALM 20 | 29.3 | 23.4 | 36.3 |
| A | Total dissolved solids (TDS) | mg/l | ALM 26 | 167 | 133 | 196 |
| A | Total alkalinity | mg $CaCO_3$/l | ALM 01 | 145 | 114 | 158 |
| A | Chloride (Cl) | mg/l | ALM 02 | 7.74 | 4.20 | 13.0 |
| A | Sulphate ($SO_4$) | mg/l | ALM 03 | 5.41 | 7.67 | 10.9 |
| A | Nitrate ($NO_3$) as N | mg/l | ALM 06 | 0.606 | 1.09 | 0.615 |
| A | Ammonium ($NH_4$) as N | mg/l | ALM 05 | <0.005 | <0.005 | <0.005 |
| A | Orthophosphate ($PO_4$) as P | mg/l | ALM 04 | <0.002 | <0.002 | <0.002 |
| A | Fluoride (F) | mg/l | ALM 08 | 0.180 | 0.198 | 0.221 |
| A | Calcium (Ca) | mg/l | ALM 30 | 35.2 | 18.9 | 29.1 |
| A | Magnesium (Mg) | mg/l | ALM 30 | 15.8 | 18.0 | 22.4 |
| A | Sodium (Na) | mg/l | ALM 30 | 10.5 | 8.58 | 18.8 |
| A | Potassium (K) | mg/l | ALM 30 | 0.994 | 1.33 | 2.02 |
| A | Aluminium (Al) | mg/l | ALM 31 | <0.002 | <0.002 | <0.002 |
| A | Iron (Fe) | mg/l | ALM 31 | <0.004 | <0.004 | <0.004 |
| A | Manganese (Mn) | mg/l | ALM 31 | <0.001 | <0.001 | <0.001 |
| A | Chromium (Cr) | mg/l | ALM 31 | <0.003 | <0.003 | <0.003 |
| A | Copper (Cu) | mg/l | ALM 31 | <0.002 | <0.002 | <0.002 |
| A | Nickel (Ni) | mg/l | ALM 31 | <0.002 | <0.002 | <0.002 |
| A | Total hardness | mg $CaCO_3$/l | ALM 26 | 153 | 121 | 165 |

A = Accredited N = Non accredited O = Outsourced S = Sub-contracted NR = Not requested RTF = Results to follow NATD = Not able to determine
The results relates only to the test item tested.
Results reported against the limit of detection.
Results marked 'Not SANAS Accredited' in this report are not included in the SANAS Schedule of Accreditation for this laboratory.
Uncertainty of measurement available on request for all methods included in the SANAS Schedule of Accreditation.

**Authenticated signature on first page**

# Test Report



**Client:** Groundwater Complete
**Address:** Plot 9, Riversdale , 6670
**Report no:** 36945
**Project:** Groundwater Complete - Rietkol Hydrocencus

**Date of certificate:** 09 February 2017
**Date accepted:** 06 February 2017
**Date completed:** 09 February 2017
**Revision:** 0

| | Analyses | Unit | Method | 36045 | 36046 | 36047 | 36048 | 36049 | 36050 | 36051 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Lab no:** | | | | 36045 | 36046 | 36047 | 36048 | 36049 | 36050 | 36051 |
| **Date sampled:** | | | | 30-Jan-2017 | 30-Jan-2017 | 30-Jan-2017 | 30-Jan-2017 | 30-Jan-2017 | 30-Jan-2017 | 30-Jan-2017 |
| **Sample type:** | | | | Water | Water | Water | Water | Water | Water | Water |
| **Locality description:** | | | | Res 02 | Section 15.2 | Section 2.1 | Section 24.13 | Section 63.1 | Section 24.5 | Section 71.4 |
| A | pH @ 25°C | pH | ALM 20 | 7.92 | 7.73 | 8.29 | 7.94 | 8.50 | 7.90 | 8.31 |
| A | Electrical conductivity (EC) @ 25°C | mS/m | ALM 20 | 44.7 | 29.1 | 29.8 | 38.2 | 43.2 | 41.4 | 33.8 |
| A | Total dissolved solids (TDS) | mg/l | ALM 26 | 265 | 182 | 182 | 219 | 261 | 246 | 205 |
| A | Total alkalinity | mg CaCO3/l | ALM 01 | 221 | 184 | 140 | 214 | 181 | 213 | 180 |
| A | Chloride (Cl) | mg/l | ALM 02 | 17.0 | 3.85 | 7.38 | 9.95 | 20.6 | 10.1 | 9.05 |
| A | Sulphate ($SO_4$) | mg/l | ALM 03 | 19.9 | <0.141 | 0.402 | 1.25 | 44.5 | 20.0 | 18.5 |
| A | Nitrate ($NO_3$) as N | mg/l | ALM 06 | 0.830 | 0.508 | 7.69 | 0.644 | 0.719 | 0.382 | 0.374 |
| A | Ammonium ($NH_4$) as N | mg/l | ALM 05 | 0.099 | 0.078 | 0.047 | 0.045 | 0.101 | 0.047 | 0.049 |
| A | Orthophosphate ($PO_4$) as P | mg/l | ALM 04 | 0.051 | 0.044 | 0.038 | 0.110 | 0.039 | 0.070 | 0.045 |
| A | Fluoride (F) | mg/l | ALM 08 | 0.395 | 0.340 | <0.263 | 0.418 | 0.268 | 0.374 | <0.263 |
| A | Calcium (Ca) | mg/l | ALM 30 | 46.2 | 29.4 | 30.7 | 36.2 | 32.2 | 42.8 | 28.7 |
| A | Magnesium (Mg) | mg/l | ALM 30 | 22.1 | 16.9 | 18.6 | 21.4 | 25.8 | 20.3 | 24.3 |
| A | Sodium (Na) | mg/l | ALM 30 | 18.3 | 12.8 | 3.42 | 12.7 | 21.4 | 16.6 | 11.9 |
| A | Potassium (K) | mg/l | ALM 30 | 2.40 | 3.48 | 1.38 | 4.07 | 2.11 | 3.66 | 1.41 |
| A | Aluminium (Al) | mg/l | ALM 31 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| A | Iron (Fe) | mg/l | ALM 31 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 |
| A | Manganese (Mn) | mg/l | ALM 31 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| A | Chromium (Cr) | mg/l | ALM 31 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 | <0.003 |
| A | Copper (Cu) | mg/l | ALM 31 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| A | Nickel (Ni) | mg/l | ALM 31 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| A | Total hardness | mg CaCO3/l | ALM 26 | 206 | 143 | 153 | 179 | 187 | 191 | 172 |
| A | Sodium Adsorption Ratio | SAR | ALM 26 | 0.56 | 0.47 | 0.12 | 0.41 | 0.68 | 0.52 | 0.40 |
| A | Difference | % | ALM 26 | -3.87 | -4.66 | -4.88 | -4.90 | -4.79 | -4.07 | -3.47 |

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**Client:** Groundwater Complete
**Address:** Plot 9, Riversdale , 6670
**Report no:** 36945
**Project:** Groundwater Complete - Rietkol Hydrocencus

**Date of certificate:** 09 February 2017
**Date accepted:** 06 February 2017
**Date completed:** 09 February 2017
**Revision:** 0

| | | | | |
|---|---|---|---|---|
| **Lab no:** | | | | 36052 |
| **Date sampled:** | | | | 30-Jan-2017 |
| **Sample type:** | | | | Water |
| **Locality description:** | | | | Section 72.5 |
| | **Analyses** | **Unit** | **Method** | |
| A | pH @ 25°C | pH | ALM 20 | 8.32 |
| A | Electrical conductivity (EC) @ 25°C | mS/m | ALM 20 | 34.7 |
| A | Total dissolved solids (TDS) | mg/l | ALM 26 | 209 |
| A | Total alkalinity | mg CaCO3/l | ALM 01 | 168 |
| A | Chloride (Cl) | mg/l | ALM 02 | 14.0 |
| A | Sulphate ($SO_4$) | mg/l | ALM 03 | 22.2 |
| A | Nitrate ($NO_3$) as N | mg/l | ALM 06 | 0.498 |
| A | Ammonium ($NH_4$) as N | mg/l | ALM 05 | 0.059 |
| A | Orthophosphate ($PO_4$) as P | mg/l | ALM 04 | 0.042 |
| A | Fluoride (F) | mg/l | ALM 08 | <0.263 |
| A | Calcium (Ca) | mg/l | ALM 30 | 25.9 |
| A | Magnesium (Mg) | mg/l | ALM 30 | 23.0 |
| A | Sodium (Na) | mg/l | ALM 30 | 17.0 |
| A | Potassium (K) | mg/l | ALM 30 | 1.49 |
| A | Aluminium (Al) | mg/l | ALM 31 | <0.002 |
| A | Iron (Fe) | mg/l | ALM 31 | <0.004 |
| A | Manganese (Mn) | mg/l | ALM 31 | <0.001 |
| A | Chromium (Cr) | mg/l | ALM 31 | <0.003 |
| A | Copper (Cu) | mg/l | ALM 31 | <0.002 |
| A | Nickel (Ni) | mg/l | ALM 31 | <0.002 |
| A | Total hardness | mg CaCO3/l | ALM 26 | 159 |
| A | Sodium Adsorption Ratio | SAR | ALM 26 | 0.59 |
| A | Difference | % | ALM 26 | -3.76 |

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**Client:** Groundwater Complete
**Address:** Plot 9, Riversdale , 6670
**Report no:** 50645
**Project:** Groundwater Complete - Rietkol Hydrocencus

**Date of certificate:** 20 March 2018
**Date accepted:** 19 March 2018
**Date completed:** 20 March 2018
**Revision:** 0

| | | | | 15662 | 15663 | 15664 |
|---|---|---|---|---|---|---|
| **Lab no:** | | | | | | |
| **Date sampled:** | | | | 15-Mar-2018 | 15-Mar-2018 | 15-Mar-2018 |
| **Sample type:** | | | | Water | Water | Water |
| **Locality description:** | | | | Hoewe276 Locality 1 | Hoewe276 Locality 2 | Hoewe277 Locality 1 |
| | **Analyses** | | **Unit** | **Method** | | |
| A | pH @ 25°C | | pH | ALM 20 | 8.18 | 7.12 | 8.07 |
| A | Electrical conductivity (EC) @ 25°C | | mS/m | ALM 20 | 32.1 | 29.6 | 33.1 |
| A | Total dissolved solids (TDS) | | mg/l | ALM 26 | 200 | 177 | 202 |
| A | Total alkalinity | | mg CaCO3/l | ALM 01 | 169 | 120 | 156 |
| A | Chloride (Cl) | | mg/l | ALM 02 | 5.43 | 6.38 | 9.16 |
| A | Sulphate ($SO_4$) | | mg/l | ALM 03 | 23.0 | 6.93 | 9.78 |
| A | Nitrate ($NO_3$) as N | | mg/l | ALM 06 | 0.912 | 7.58 | 5.23 |
| A | Ammonium ($NH_4$) as N | | mg/l | ALM 05 | 0.192 | 0.192 | 0.036 |
| A | Orthophosphate ($PO_4$) as P | | mg/l | ALM 04 | <0.005 | <0.005 | <0.005 |
| A | Fluoride (F) | | mg/l | ALM 08 | <0.263 | <0.263 | <0.263 |
| A | Calcium (Ca) | | mg/l | ALM 30 | 29.6 | 30.8 | 33.0 |
| A | Magnesium (Mg) | | mg/l | ALM 30 | 25.0 | 18.2 | 21.4 |
| A | Sodium (Na) | | mg/l | ALM 30 | 7.62 | 5.89 | 8.90 |
| A | Potassium (K) | | mg/l | ALM 30 | 2.14 | 1.50 | 1.87 |
| A | Aluminium (Al) | | mg/l | ALM 31 | 0.010 | <0.002 | <0.002 |
| A | Iron (Fe) | | mg/l | ALM 31 | <0.004 | <0.004 | <0.004 |
| A | Manganese (Mn) | | mg/l | ALM 31 | <0.001 | 0.038 | <0.001 |
| A | Chromium (Cr) | | mg/l | ALM 31 | <0.003 | <0.003 | <0.003 |
| A | Copper (Cu) | | mg/l | ALM 31 | <0.002 | <0.002 | <0.002 |
| A | Nickel (Ni) | | mg/l | ALM 31 | <0.002 | <0.002 | <0.002 |
| A | Total hardness | | mg CaCO3/l | ALM 26 | 177 | 152 | 171 |

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aquatico Laboratories (Pty). Ltd.

ilac-MRA sanas Testing Laboratory T0685

## Test Report



**Client:** Groundwater Complete
**Address:** Plot 9, Riversdale , 6670
**Report no:** 50727
**Project:** Groundwater Complete - Rietkol Hydrocencus

**Date of certificate:** 28 March 2018
**Date accepted:** 20 March 2018
**Date completed:** 28 March 2018
**Revision:** 0

| | | | | |
|---|---|---|---|---|
| **Lab no:** | | | | 16061 |
| **Date sampled:** | | | | 20-Mar-2018 |
| **Sample type:** | | | | Water |
| **Locality description:** | | | | RKLX |
| | **Analyses** | **Unit** | **Method** | |
| A | pH @ 25°C | pH | ALM 20 | 7.74 |
| A | Electrical conductivity (EC) @ 25°C | mS/m | ALM 20 | 65.1 |
| A | Total dissolved solids (TDS) | mg/l | ALM 26 | 416 |
| A | Total alkalinity | mg CaCO3/l | ALM 01 | 233 |
| A | Chloride (Cl) | mg/l | ALM 02 | 85.0 |
| A | Sulphate ($SO_4$) | mg/l | ALM 03 | 33.7 |
| A | Nitrate ($NO_3$) as N | mg/l | ALM 06 | 0.339 |
| A | Ammonium ($NH_4$) as N | mg/l | ALM 05 | 0.137 |
| A | Orthophosphate ($PO_4$) as P | mg/l | ALM 04 | <0.005 |
| A | Fluoride (F) | mg/l | ALM 08 | 0.302 |
| A | Calcium (Ca) | mg/l | ALM 30 | 44.5 |
| A | Magnesium (Mg) | mg/l | ALM 30 | 29.5 |
| A | Sodium (Na) | mg/l | ALM 30 | 74.4 |
| A | Potassium (K) | mg/l | ALM 30 | 4.56 |
| A | Aluminium (Al) | mg/l | ALM 31 | <0.002 |
| A | Iron (Fe) | mg/l | ALM 31 | <0.004 |
| A | Manganese (Mn) | mg/l | ALM 31 | 0.193 |
| A | Chromium (Cr) | mg/l | ALM 31 | <0.003 |
| A | Copper (Cu) | mg/l | ALM 31 | <0.002 |
| A | Nickel (Ni) | mg/l | ALM 31 | <0.002 |
| A | Total hardness | mg CaCO3/l | ALM 26 | 232 |

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