water & sanitation
Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

Department of Water and Sanitation

Directorate: National Hydrological Services

Sub-directorate: Geohydrological Information Services

GH4437

Mthatha/Komani Map Series hydrocensus report

Date: 15 – 21 February 2026

Department of Water and Sanitation,
Private Bag X313,
Pretoria, 0001
Republic of South Africa

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REPUBLIC OF SOUTH AFRICA

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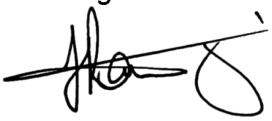
REPORT STATUS

Report Title:	*Mthatha/Komani Map Series hydrocensus report*
Authors:	*Robert Fourie and Tholoana Mabula*
Status of Report:	*Final Report*
First Version:	*03 March 2026*
Second Version	
Third Version	
Reviewers	*Dr. Lindelani Lalumbe* *Scientist Manager: Geohydrological Information Services*  *Date:* 03 March 2026
Approval	*Mr. Fhedzisani Ramusiya* *Acting Director: National Hydrological Services*  *Date:* 04.03.2026

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1. INTRODUCTION

Accurate and up-to-date groundwater information is essential for sustainable resource management, planning, and future development. Reliable datasets on borehole location, yield, and groundwater quality form the foundation of hydrogeological assessments and decision-making processes. However, data gaps within existing map sheets can significantly constrain interpretation and long-term planning.

To address these constraints, a hydrocensus was conducted on selected boreholes within the Mthatha and Komani map sheets. These boreholes had previously been identified as strategically significant due to their geographic positions and their potential to strengthen spatial coverage of groundwater yield and groundwater quality information. Each selected borehole effectively “filled” a gap in the existing dataset, thereby improving the representativeness and reliability of hydrogeological mapping within the respective areas.

The primary purpose of the hydrocensus was to verify the current status and condition of the identified boreholes. Over time, boreholes may become damaged, decommissioned, buried, vandalised, or otherwise rendered unusable. Records (NGA) may indicate their existence, but field verification is essential to confirm their operational status. Therefore, this site visit focused on determining whether each borehole still existed at the recorded coordinates and assessing its physical condition.

Beyond confirming existence and equipment status, the hydrocensus also provided an opportunity to observe general site conditions. This included noting visible signs of damage, accessibility constraints, land use activities in the surrounding area, and any factors that may influence groundwater quality or borehole integrity.

The field investigation was conducted over a five-day period, from Monday to Friday, with the preceding Sunday and following Saturday allocated for travel. The first two days (Monday and Tuesday) were dedicated to visiting boreholes located within the Mthatha map sheet. The remaining three days (Wednesday to Friday) were allocated to boreholes situated within the Komani map sheet.

2. MTHATHA HYDROCENSUS

Monday, 16 February 2026

T6N0002

The first borehole that was visited, the team struggled to locate however the region shared the water levels as well as their updated co-ordinates with head office. The borehole is in the ground and unequipped and is locked with an interlock/LM key. The surrounding area is mountainous. The water level for the borehole was recorded to be 2.20 mbgl by the regional office (Mthatha- Mr Mbata). This borehole may be adopted for pumping test.

Figure 1: Borehole T6N0002

T6N0005

The borehole was enclosed in a cement enclosure which was fenced by barbed wire. The borehole was equipped and functioning as a power source was directly outside the fence, and therefore water level could not be recorded. The borehole is a municipal borehole (Lusikisiki municipality). Within a 1km radius, another borehole with a similar structure was present and also fully equipped therefore water level could not be recorded.

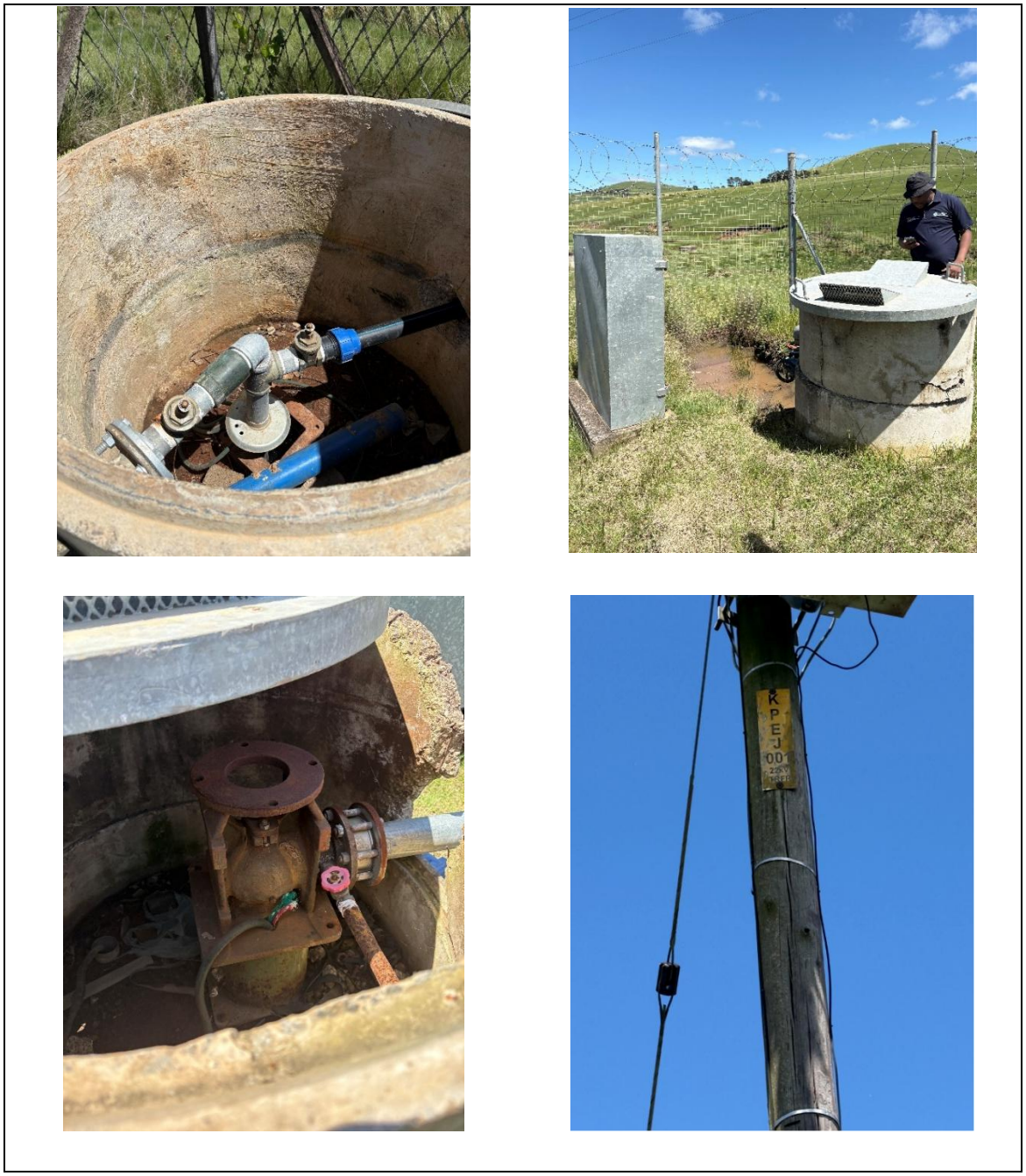

Figure 2 - T6N0005

T3N0002

The borehole was located within a rainfall/weather station which was locked however the Mthatha regional office has the keys to the station, therefore water level could not be recorded, nor could any sampling occur.

Figure 3 - T3N0002 inside a weather station.

Tuesday, 17 February 2026

T7N0001

The first borehole that was visited on day 2 had a similar structure to that of borehole T3N0002, whereby the borehole was enclosed within a rainfall/weather station that was locked (regional office has the keys). For that reason, water level could not be recorded, nor could any sampling occur.

Figure 4 - T7N0001

T2N0002

The second borehole that was visited was not on the list of boreholes that were meant to be visited however, the borehole was similar to T7N0001 with the rainfall/weather station enclosing it. The regional office assisted by opening unlocking the enclosure allowing for water level to be recorded. No water samples were collected. The recorded water level was 15.07 mbgl.

Figure 5 -T2N0002

T2N0004

The borehole was in the ground, unequipped and is locked with an interlock/LM key. It is surrounded by a flat vegetation with a water level of 34.15 mbgl. It may be adopted for pumping test to obtain yield data and aid in filling data gaps. No water samples were collected.

Figure 6 - T2N0004

T1N0006

The borehole was in the ground, unequipped and is locked with an interlock/LM key. The lock was difficult to open. It is surrounded by a flat vegetation (mountainous area) with a water level of 16.65 mbgl. It may be adopted for pumping test to obtain yield data and aid in filling data gaps. No water samples were collected.

Figure 7 - T1N0006

T1N0010

The borehole was in the ground, unequipped and is locked with an interlock/LM key. It is surrounded by a flat vegetation (mountainous area) with a water level of 25.29 mbgl. A production borehole, belonging to Chris Hani municipality, is present 3km away from T1N0010. This borehole may be sampled in **future for quality**.

Figure 8 - T1N0010

T3N0003

The Mthatha regional office (Mr Mbata) shared the updated co-ordinates and images of this borehole. The borehole is enclosed in the similar structure (rainfall/weather station) which is locked. The recorded water level was 1.28 mbgl.

Figure 9 - T3N0003

3. KOMANI HYDROCENSUS

WEDNESDAY, 18 February 2026

On the third day of the Mthatha Komani hydrocensus, the team moved to the Komani map sheet. A total of six (6) sites were visited, where only four (4) sites were successfully documented.

3127BB00009 (1st Site)

The first site (Figure 10) was located on a farm, outside of the nearest town, Khowa. The purpose of this borehole was to provide more yield data for the Elliot formation; hence a pumping test will be needed. According to the data on NGA this site was constructed in 1971. Upon arrival the farmer confirmed that there is a borehole on his property. After reaching the borehole it was evident that the coordinates on NGA were not accurate enough, therefore new coordinates were taken. Upon further investigation it was found that the borehole had collapsed at a depth of 1.43 mbgl. In conclusion no water samples could be taken for this site, and a pumping test will not be possible.

Figure 10 - 3127BB00009

2nd Site

The second site was also located on a farm outside of Khowa, next to the R56 main road. The team entered the property asking if there were any boreholes to investigate since no boreholes on this property had been registered on NGA. The property owner said that they only used spring water, therefore no borehole was present on the property. The team concluded their site inspection and moved to the next site.

3rd Site

The third site, also located on a farm outside of Khowa, was a new borehole that was not registered on NGA. The property belonged to a farmer, Karl Bezuidenhoud, and upon entry he confirmed that they do use groundwater. The farmer did not show the team the borehole but had no problem with us taking water samples from his JoJo tanks where the groundwater was stored. The team conducted field measurements for water quality and took a sample before moving to the next site. This new site should be registered on NGA to obtain a borehole ID as well as an MFID number.

pH	7.8
Temp	˚C
EC	43.1 mS/m
TDS	310 mg/L

3127BD00012 (4th Site)

The fourth site was located on the R56 main road. The purpose of this site was to see if a pumping test will be possible to obtain more yield information on the Molteno Intergranular and Fractured aquifer. According to the information on NGA this site was drilled in 1993. Upon arrival the farm gate was locked and no entry to the property was possible (Figure 11). A windmill equipped with a JoJo tank was visible from the gate and was assumed to be the geosite registered on NGA. Due to the borehole being equipped no pumping test will be possible and the team concluded the site investigation.

Figure 11 -3127BD00012

3128AC00008 (5th Site)

The fifth site (Figure 12) was also located between the two towns Khowa and Ugie. It was situated on the property of a large plantation company called PG Bison. The purpose of this borehole was to see if a pumping test will be possible to obtain more yield information for the Molteno Intergranular and Fractured aquifer. According to the data on NGA this borehole was drilled in 1993. The team was taken to the borehole where further investigations were conducted. It was found that the borehole was unequipped and open, making it possible to conduct a pumping test. The water level was also taken using a dip meter and was found to be 49.495 mbgl.

Figure 12 -3128AC00008

6th Site

The final site (Figure 13) that was visited on Wednesday was a borehole located inside a yard, also within the boundary of the PG Bison company. This was a new borehole and was therefore not registered on NGA. The borehole was equipped since the household uses groundwater for their domestic use. Water quality samples were also taken as well as field measurements using the probe. No water level measurement was taken due to the borehole being equipped. It will also not be possible to conduct a pumping test to obtain more yield data. This new site should be registered on NGA to obtain a borehole ID as well as an MFID number.

pH	7.7
Temp	˚C
EC	15.36 mS/m
TDS	310 mg/L

Figure 13 - 6th Site.

THURSDAY, 19 February 2026

During the fourth day of the Mthatha Komani hydrocensus a total of four (4) geosites were investigated. From the four sites only two were successfully documented.

3128AA00006 (7th Site)

This borehole was located what looked like a wetland within the property boundaries of the PG Bison company (Figure 14). The purpose of this borehole investigation was to see if a pumping test will be possible to obtain more yield data for the Elliot Formation. According to the data on NGA this borehole was drilled in 1993. The owner of a nearby house utilizing the borehole for domestic use led the team to the borehole. The borehole was therefore equipped but had a small opening where the dip meter could fit to take the water level reading. The water level for this borehole was 5.845 mbgl. A water sample was also taken as well as field measurements for the water quality.

pH	7.7
Temp	19.6 ˚C
EC	20.3 mS/m
TDS	140 mg/L

Figure 14 -3128AA00006

308-0008 (8th Site)

The coordinates from NGA for this borehole were plotting within the northernmost boundary of the PG Bison property. According to the NGA data this borehole was drilled in 2013. After a delicate search for the borehole, no borehole was found (Figure 15). The area was heavily overgrown with bushes and shrubs making it very difficult to spot a borehole casing with no exact location. The team concluded the search and moved to the next geosite.

Figure 15 - Overgrown area.

3128AC00002 (9th Site)

According to the data on NGA this borehole was drilled in 1993. The coordinates on NGA plotted next to a farmhouse, south of the R56 main road. Upon arrival it was clear that the farmhouse had been abandoned, hence no one could help the team locate the borehole. Due to the abandoned nature of the area, overgrown by grass and bushes, the borehole was not found. The team concluded their search and moved to the next site.

Figure 16 - Abandoned Site.

EC/T11/149 (10th Site)

The team spotted a windmill next to the road and decided to investigate. No coordinates were available on NGA for this borehole. Upon arrival it was clear that the windmill was not in working condition and was severely damaged. The borehole, however, was closed as seen in Figure 17. A steel marker was found next to the windmill showing that this borehole had an ID of “EC/T11/149”. Pumping tests will only be possible if the steel is removed from the borehole cap. No samples or field measurements were taken.

Figure 17 - EC/T11/149

FRIDAY, 20 February 2026

On the last day of the Mthatha Komani hydrocensus a total of six (6) sites were investigated. From the six sites only four (4) were successfully documented.

NTL-27 (11th Site)

This site was located within a rural settlement/village. The purpose of this borehole was to provide a water sample to obtain water quality information for the Karoo Dolerite Intergranular and Fractured aquifer system. It was clear upon arrival that the borehole had been neglected and was not being used to supply groundwater (Figure 18). Due to the borehole being closed and no tap connected to the borehole, no sample and field measurements were possible.

Figure 18 - NTL-27

3126AD00029 (12th Site)

This site was located inside the Molteno Golf club. The golf greenkeeper mentioned that they are using groundwater from a borehole (Figure 19). It however was not possible to take a water sample because the golf course was currently using water from the local dam, bypassing the supply from the borehole. Therefore, the taps could not supply groundwater from the borehole and instead were supplying water from the dam.

Figure 19 - 3126AD00029

3126AA00034 (13th Site)

This borehole site led the team to a farm located east of Steynsburg, not far from the R56 main road. According to the NGA data this borehole was drilled in 1993. The purpose of the site inspection was to determine if the borehole was suitable to conduct future pumping tests to obtain more yield data for the Karoo Dolerite Fractured aquifer. Water samples were also needed for more water quality data for this aquifer.

Upon arrival the team noted that there were three boreholes located close to one another (Figure 20). At this site the borehole on the far left of the figure below was equipped with a pump, whereas the middle borehole was open. The windmill was located to the far right and was in working condition, pumping water into a water storage facility located not too far away. A water sample was collected from this water storage facility as well as field measurements. The open borehole (middle) measured a water level depth of 2.14 mbgl. The field measurements were:

pH	7.8
Temp	27.4 ˚C
EC	78.1 mS/m
TDS	543 mg/L

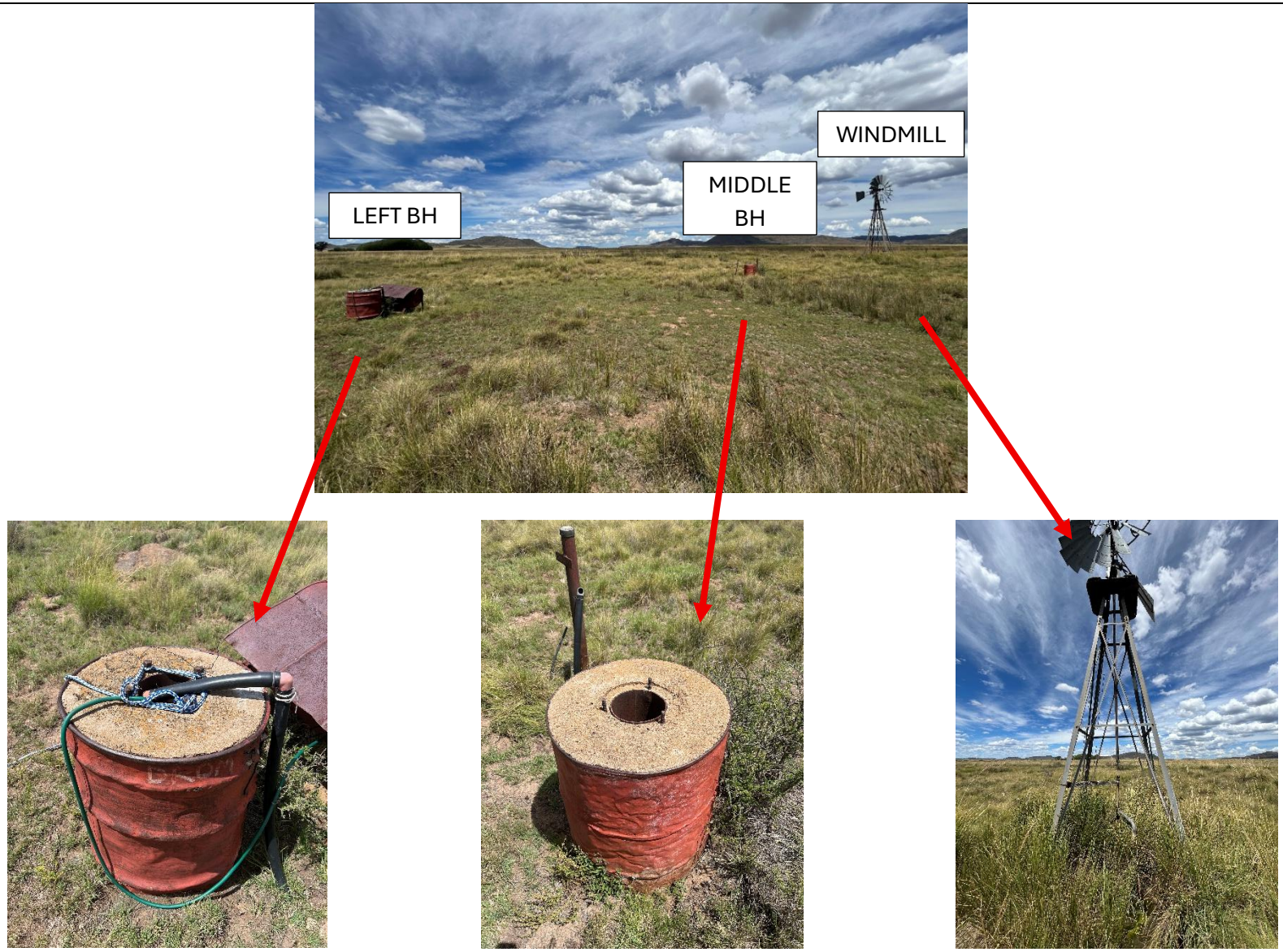

Figure 20 – 3126AA00034

EC/D35/0204 (14th Site)

The site was located on a farm not too far from the previous site but access to this borehole was not possible. A locked farm gate prohibited any borehole inspection as the team could not get close to the borehole. According to the NGA data this borehole was drilled in 2011. The purpose of this borehole visit was to determine if future pumping tests were possible to gather more yield information on the Karoo Dolerite Fractured aquifer. This site, however, can be deemed not necessary for future visits since the previous site will provide enough information for the Karoo Dolerite Fractured aquifer.

3126AA00038 (15th Site)

This borehole site was located on the Rosslands farm next to the R391 main road, south of Burgersdorp. The purpose of this site visit was to determine if future pumping tests are possible to gather more yield information on the fractured Burgersdorp aquifer. The farmer took the team to the borehole site where two boreholes were next to one another. The one borehole was capped with a rock (Figure 21) where the water level was measured. It was found that the borehole had collapsed, hence no water level was taken. The second borehole (next to the collapsed borehole) was equipped as the farmer is using this borehole for his domestic water supply. The borehole measured a water level depth of 9.36 mbgl. The farmer had drilled the borehole approximately 5 -6 years ago.

Figure 21 -3126AA00038

3126AB00049 (16th Site)

This borehole site was located outside of a rural community, located in Burgersdorp. According to NGA this borehole was drilled in 1991. The purpose of the borehole inspection was to sample water quality information on the fractured Alluvium aquifer. After a search for the borehole no evidence was found that can hint to the existence of the borehole. The team concluded their inspection.

Table 1 - A summary of the boreholes that were investigated during the Mthatha/Komani hydrocensus.

BH ID	LATITUDE	LONGITUDE	MFID NO.	COMMENTS	PUMPING TEST	QUALITY SAMPLE
T3N0002	-31.16	28.925833		BH inside weather station- can be used for pumping if structure removed	YES	NO
T3N0003	-31.38778	29.00158		BH inside weather station- can be used for pumping if structure removed	YES	NO
T2N0004	-31.86194	28.768056		BH locked with interlock	YES	NO
T7N0001	-31.45879	28.96276		BH inside weather station- can be used for pumping if	YES	NO

			structure removed		
T1N0010	-31.761667	28.17556	BH locked with interlock	YES	NO
T1N0006	31.73444	28.14611	BH locked with interlock	YES	NO
T6N0002	-31.10376	29.45876	BH locked with interlock	YES	NO
T6N0005	-31.22222	29.4413889	BH equipped	NO	NO
3126AA00034	-31.218889	26.003056	BH Open	YES	YES
EC/D35/0204	**BH NOT FOUND**			**N/A**	**N/A**
3128AC00008	-31.354444	28.053333	BH Open	YES	N/A
3127BD00012	-31.3497	27.98321	Access denied	NO	NO
3128AC00002	**BH NOT FOUND**			**N/A**	**N/A**
3127BB00009	-31.156111	27.918611	BH collapsed	NO	NO
3128AA00006	-31.186944	28.132777	BH equipped	NO	YES
308-0008	**BH NOT FOUND**			**N/A**	**N/A**
EC/T11/0249	**BH NOT FOUND**			**N/A**	**N/A**
3126AA00038	-31.217222	26.151944	BH equipped	NO	NO
NTL-27	-31.654167	27.396111	BH closed	NO	NO
3126AD00029	-31.39794	26.35011	Need to go back for quality sample	NO	NO
NEW BH'S					

KARL BEZUIDENHOUD BH	-31.378333	27.955		BH equipped	NO	YES
BIG BROWN DOG BH	-31.195	28.162222		BH equipped	NO	YES
EC/T11/149	-31.333611	28.269167		Windmill	Possible	NO
T2N0002	-31.733889	28.69111		BH inside weather station- can be used for pumping if structure removed	YES	NO
NEAR T6N0002	-31.22227	29.44125		BH equipped	NO	NO

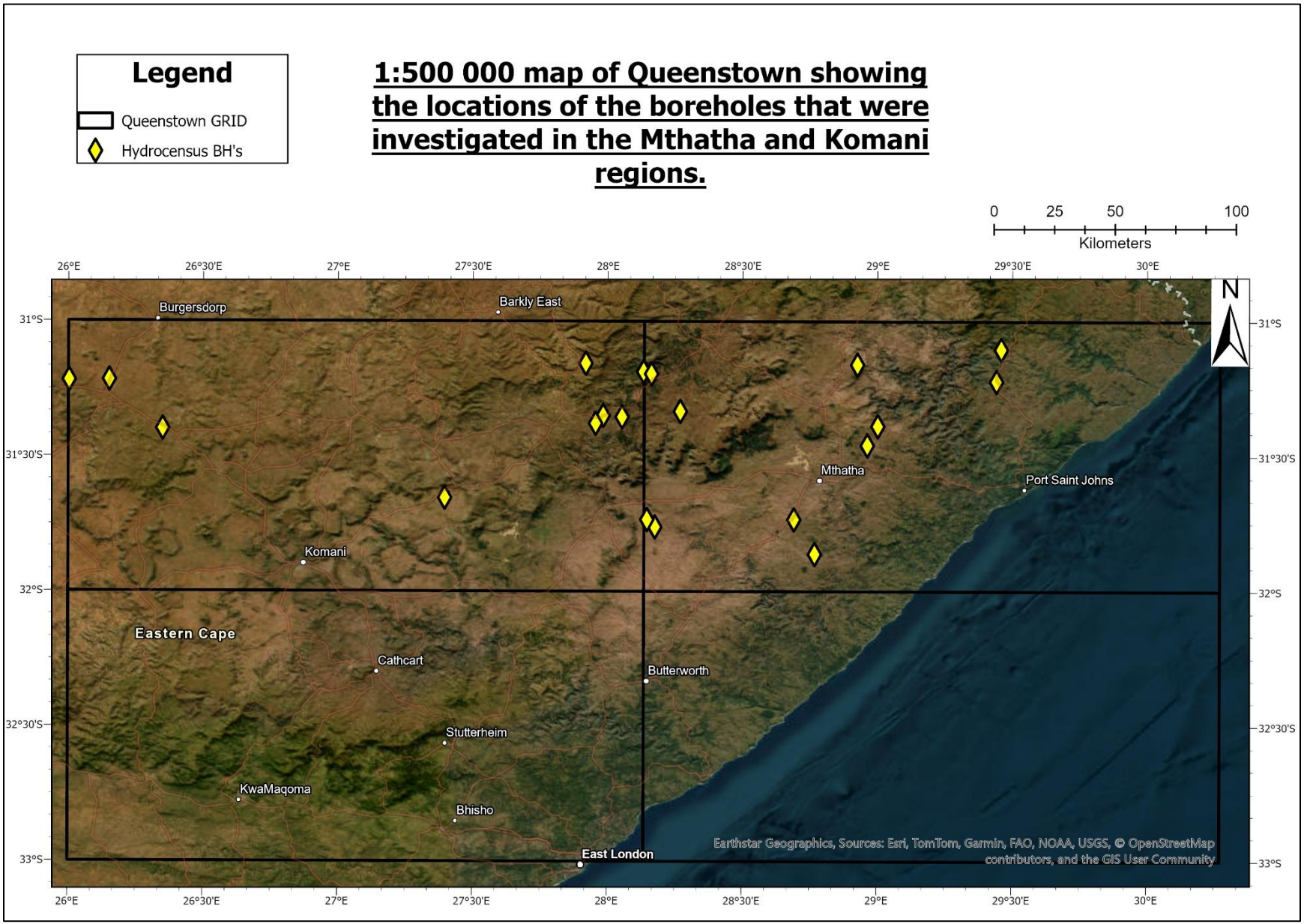

Figure 22 - The map of the hydrocensus boreholes for Mthatha and Komani.

4. CONCLUSION

From 16 February to 20 February 2026 a total of 25 boreholes were investigated for the Mthatha/Komani hydrocensus. Of the 25 boreholes, ten (10) were suitable to conduct future pumping tests and 4 samples were obtained. Only one (1) of the targeted boreholes for the Mthatha map sheet were unsuccessful with regards to the suitability to conduct future pumping tests. However, only two (2) boreholes were suitable for future pumping tests in the Komani map sheet. This brings the total number of suitable boreholes for future pumping tests to 10 boreholes. Three new boreholes were found during the Komani hydrocensus that needs to be registered on the National Groundwater Archives.

5. RECOMMENDATIONS

The following actions were recommended:

- All sampled boreholes should be allocated monitoring feature identifiers (MFID)
- All boreholes that are not registered on the National Groundwater Archive (NGA) should be allocated a number and registered on NGA.
- Updating of pumping test specifications based on site conditions (including removal of pumps).

ANNEXURE 1

water & sanitation
Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

Groundwater Monitoring Fieldsheet:

Review and update of Queenstown map sheet

Adhoc

Month:

Eastern Cape

Geosite	HYDSTRA no	WMS	MFID	Elevation (m)	Collar height (m)	Previous reading				Date	Time	Reading		Comments
						WL (m)	EC (µS/cm)	pH	Temp (°C)			WL (m)	Chem Sample !	
T3N0002	T3N0002			1040						16/02/2026	16:00			BH enclosed inside rain station. Pumping test and quality sample possible.
T3N0003	T3N0003													BH inside weather station. Pumping is possible if rainfall sampler is removed.
T2N0004	T2N0004			680						17/02/2026	12:08	34.15		BH on the ground
T7N0001	T7N0001			940						17/02/2026	9:34			BH enclosed in rain station. Pumping test and quality sample possible.
T1N0010	T1N0010			740						17/02/2026	14:53	25.29		BH on the ground. 3km from production borehole.
T1N0006	T1N0006			740						17/02/2026	14:22	16.65		BH on ground. Pumping test possible.
T6N0002	T6N0002			710						16/02/2026	10:30			BH equipped
T6N0005	T6N0005			840						16/02/2026	11:30			BH opperational and fitted with a pump.
3126AA00034				1580	0.73					20/02/2026	13:20	2.14		3 BHs on site, closely spaced. 1 Windmill, 1 BH equipped, 1 open BH.
EC/D35/0204										20/02/2026	14:00			BH NOT FOUND. Access denied.
3128AC00008				1480	0.30					18/02/2026	13:55	49.50		BH open. Pump test possible. Rainfall station on property.
3127BD00012										18/02/2026	13:15			Access denied. Farm gate locked. JoJo tank and windmill visible.
3128AC00002										19/02/2026	15:00			BH NOT FOUND. House abandoned.
3127BB00009										18/02/2026	10:00			BH collapsed at a depth of 1.43 mbgl.
3128AA00006				1340	0.33		203	7.70	19.6	19/02/2026	9:15	5.85		BH is equiped.
308-0008										19/02/2026	11:20			BH NOT FOUND
EC/T11/0249										19/02/2026				BH NOT FOUND
3126AA00038				1510	0.37					20/02/2026	15:10	9.36		2 BHs on site. One borehole collapsed, other one is in use and equipped.
NTL-27				1130						20/02/2026	10:00			BH closed and abandoned.
3126AD00029				1610						20/02/2026	12:35			BH on golf course. BH is equipped. Need to go back for quality sample.

Geosite	HYDSTRA no	WMS MFID	Elevation (m)	Collar height (m)	Previous reading				Date	Time	Reading		Comments
					WL (m)	EC (µS/cm)	pH	Temp (°C)			WL (m)	Chem Sample [1]	
BH Kbfarm			1340			431	7.80		18/02/2026	12:54			BH equipped, JoJo tanks used for storage.
BH BBD			1330			153	7.70		18/02/2026	15:30			BH located in yard. BH is equipped.
EC/T11/149			1250						19/02/2026	15:53			Old windmill. BH is closed with cap. Cap is removable with the required tools.
T2N0002	T2N0002		920						17/02/2026	11:19			BH inside weather station. Pumping is possible if rainfall sampler is removed.

Geosite	HYDSTRA no	WMS MFID	Elevation (m)	Collar height (m)	Previous reading				Date	Time	Reading		Comments
					WL (m)	EC (µS/cm)	pH	Temp (°C)			WL (m)	Chem Sample ¹	
Total Geosites Visited		Total Geosites sampled								Total			

I, Robert Fourie, hereby submit the field sheet for Komani-Mthantha adhoc monitoring and declare that the content is correct and true.

Monitor: Robert Fourie

Date: 03/03/2026

Supervisor: Dr Lindelani Lalumbe

Date: 03/03/2026

Capturer:

Date:

Monitors: