



water affairs

Department:
Water Affairs
REPUBLIC OF SOUTH AFRICA

MINISTRY OF WATER AND
ENVIRONMENTAL AFFAIRS

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MINISTER OF WATER AND ENVIRONMENTAL AFFAIRS

NATIONAL ASSEMBLY: QUESTION 1133 FOR WRITTEN REPLY

A draft reply to the above mentioned question asked by Mr M J Ellis (DA) is attached for your consideration.

ACTING DIRECTOR-GENERAL

DATE: 19/05/11

DRAFT REPLY APPROVED/AMENDED

MRS B E E MOLEWA, MP
MINISTER OF WATER AND ENVIRONMENTAL AFFAIRS

DATE: 27.05.2011

NATIONAL ASSEMBLY

FOR WRITTEN REPLY

QUESTION NO 1133

DATE OF PUBLICATION IN INTERNAL QUESTION PAPER: 01 APRIL 2011
(INTERNAL QUESTION PAPER NO. 10)

1133. Mr M J Ellis (DA) to ask the Minister of Water and Environmental Affairs:

- (1) Whether the Department of Water Affairs has an ongoing borehole monitoring programme in the Bapsfontein area in the Ekurhuleni Metropolitan Municipality; if not, why not; if so, if so, what are the relevant details;
- (2) whether the department manages any of its own boreholes in this area for the purpose of measuring water levels; if not, why not; if so, what are the relevant details;
- (3) whether the department has found that brittle dolomite from lack of underground moisture is resulting in sink holes forming in the area; if so, what is she doing to rectify the situation; if not,
- (4) whether she intends investigating these occurrences; if not, why not; if so, what are the relevant details;
- (5) whether the department (a) is liaising with local stakeholders in the community about borehole water problems and (b) has verified whether each farm in the area is (i) complying with the maximum permissible number of boreholes and (ii) drawing water from boreholes within prescribed limits; if not, what will be done to rectify the situation in each case; if so, what are the relevant details in each case?

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REPLY:

- (1) Yes, the Department has an ongoing monitoring programme on a monthly basis as part of its borehole monitoring programme in the Bapsfontein area within the Ekurhuleni Metropolitan Municipality. The Municipality has a number of boreholes that are used for groundwater level monitoring.
- (2) Yes, the Department manages its own boreholes for purposes of measuring water levels. The groundwater level results are recorded on the Department's groundwater database.
- (3) No, it should be noted that the lack of moisture will not cause dolomitic rock to become brittle and therefore no brittle dolomite has been found in the area. However, it is a well known fact that the fluctuation of water levels in dolomitic aquifers may result in land subsidence and the formation of sinkholes in specific circumstances. The mechanism that leads to sink hole formation is the collapse of soil into the large underground caverns within the dolomitic compartments when dewatering of these occur. Bapsfontein is situated in an area underlain by dolomitic aquifers and land in the vicinity of Bapsfontein may therefore be susceptible to sink holes occurring. The Department has since developed new monitoring boreholes to evaluate the fluctuation of water levels, which may be caused by periods of low rainfall and also due to abstraction of water for various commercial activities.

- (4) Yes, the Department has assisted the Municipality to conduct specific geotechnical investigations in order to determine land stability impacts following the occurrence of a sinkhole in the Bapsfontein vicinity in early 2004. Subsequently, a Technical Task Team between the Department and the Municipality was established to address concerns relating to land instability in the area. In addition, the following actions have been taken by the Department:
- The Municipality was authorised to abstract groundwater from a specific dolomitic compartment which was not under stress in order to ensure continued water supply to the residents of the Geestesveld and Bapsfontein small holdings, thus also reducing the impact of water abstraction on the stressed Bapsfontein dolomitic compartment.
 - The Department has commenced with investigations into the lawfulness of groundwater use in the Bapsfontein area. Thus far, due to the investigations, the Department stopped a user's abstraction of groundwater for irrigation under centre pivot.
 - The Department has cooperated with the Council for Geosciences in conducting specialist aerial surveys and analysis in improving knowledge of and delineating the dolomitic compartments in the area from Irene to Delmas, which includes the Bapsfontein area. Some additional monitoring boreholes may need to be drilled to further enhance knowledge of the respective dolomitic compartments in the area.
- (5)(a) Yes, the Department is liaising with stakeholders through participation in the Technical Task Team established with the Ekurhuleni Metropolitan Municipality and the Bapsfontein community forms part thereof.
- (5)(b)(i) Yes, the Department has identified instances where water use from groundwater was clearly identifiable as being unauthorised, and has dealt with such cases. Water use from groundwater for irrigation on Portion 62 of Tweefontein 413 JR has already been stopped since this use was unlawful. Further, more detailed investigation of the lawfulness of water uses in the area is continuing. The Department has also undertaken not to allocate additional water from these groundwater resources where it will have a further negative impact on water levels and land stability.
- (5)(b)(ii) Yes, it is envisaged that the process of verifying the lawfulness of water use on all properties in the Bapsfontein area is likely to result in the identification of more unauthorised cases of water use, in which instance all provisions in the National Water Act, 1998 (Act No 36 of 1998) will be utilised to stop such unauthorised water use in order to protect the groundwater resource. Should the resource still be found to be over-utilised upon completion of the verification process, the Department will need to implement compulsory licensing as allowed for in terms of the National Water Act, 1998 in order to maintain groundwater abstraction at sustainable levels.

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