

**DRILLING LICENCE AND GROUNDWATER  
DEVELOPMENT REGULATIONS, 2006**

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## **DRILLING LICENCE AND GROUNDWATER DEVELOPMENT REGULATIONS, 2006**

In exercise of the powers conferred on the Water Resources Commission by section 35 of the Water Resources Commission Act, 1996 (Act 522) these Regulations are made this 29th day of September, 2006.

### *Drilling licence*

#### **Water drilling licence**

1. (1) A person shall not construct a well for the abstraction, or monitoring of groundwater or for research if that person does not have a drilling licence granted in accordance with these Regulations.

(2) The drilling licence shall be obtained from the Commission on application.

#### **Application for drilling licence**

2. (1) An application for a drilling licence shall be

(a) made to the Commission, and

(b) in the form specified in the First Schedule.

(2) Without limiting the effect of subsection (1), the application shall contain the following information:

(a) particulars of the applicant;

(b) particulars of responsible field personnel of the applicant which shall include

(i) list of staff,

(ii) qualifications of staff at least one of whom must be able to communicate effectively in the English language,

(iii) at least one qualified driller,

(iv) at least one qualified hydro-geologist or geologist or a geological technician;

(c) list of available plant and equipment indicating

(i) the description,

(ii) the trademark,

(iii) age, and

(iv) state of repair;

(d) list of drilling activities conducted during the five years immediately preceding the application, indicating

(i) the year the activities were undertaken, and

(ii) the place where the activities took place, and

(e) any other information that the Commission may request.

(3) The application shall be accompanied with the appropriate administrative and processing fee specified in the, First Schedule.

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**Process for application**

3. (1) The Commission shall
- (a) acknowledge receipt of the application within one month of receipt of the application for a drilling licence, and
  - (b) inform the applicant in writing of the decision of the Commission within two months after the receipt of the application.
- (2) Where
- (a) an applicant fails to pay the stipulated administrative and processing fee, or
  - (b) there is an error in the application,
- the Commission shall notify the applicant in writing within fifteen days after the receipt of the application to rectify the situation.
- (3) If the applicant fails to rectify the situation, the Commission shall
- (a) not process the application, and
  - (b) give notice to the applicant of its inability to process the application.

**Grant of drilling licence**

4. (1) The Commission shall refuse to grant a licence to an applicant for reasons of
- (a) public safety, or
  - (b) other reasonable justification.
- (2) A licence granted by the Commission is subject to conditions specified in the licence.

**Licence register**

5. (1) The Commission shall keep a register containing the particulars of licences granted and the register may be accessed by the public.
- (2) Extracts from the register may be obtained from the Commission on request and on payment of a fee determined by the Commission.

**Licence fee**

6. (1) An applicant who qualifies for a licence shall pay a licence fee in accordance with the categories set out in the Second Schedule when the application is processed.
- (2) The fees specified in the First and Second Schedule shall be used to defray the cost of groundwater management and regulation.

**Duration and renewal of a licence**

7. (1) A drilling licence shall be for the period specified in the licence, and may be renewed.

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(2) An application for the renewal of the licence shall be made to the Commission not later than thirty days before the expiration of the licence.

(3) The renewal shall attract the fee specified in the Second Schedule.

**Non-transferability of drilling licence**

**8.** A person shall not transfer a drilling licence except with the prior approval in writing of the Commission.

**Withdrawal of drilling licence**

**9.** The Commission may withdraw a drilling licence where

(a) the Commission determines that the holder has conducted drilling operations in an unprofessional manner after

(i) an investigation has been conducted; and

(ii) the holder has been given a hearing about the unprofessional conduct,

(b) the holder intentionally makes a misstatement of facts in a report required from the holder under these Regulations, or

(c) the holder fails to comply with the provisions of these Regulations or conditions specified in the licence.

**Prohibition of construction of well where licence is not renewed**

**10.** A person who fails to renew a drilling licence issued by the Commission, or whose application for renewal is rejected by the Commission shall not construct or begin to construct a well for

(a) the abstraction of groundwater,

(b) the monitoring of, or research into ground water.

**Appeal**

**11.** (1) A person or a drilling contractor aggrieved by the refusal of the Commission to grant or renew a licence may lodge a complaint in writing to the Chairperson of the Commission, within thirty days after the decision of the Commission.

(2) The complainant shall

(a) state the nature of the objection or complaint,

(b) attach a copy of the decision objected to, and

(c) attach the relevant documents for the determination of the complaint.

(3) The Commission shall take a decision on the complaint within thirty days after receipt of the complaint.

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(4) A person may appeal to the High Court against the decision on a complaint where

- (a) the person is dissatisfied with the decision, or
- (b) the Commission fails to act on the complaint within thirty days after the receipt of the complaint.

*Construction of well*

**Notice of intention to construct a well**

**12.** (1) A drilling contractor shall not construct or begin to construct a well without notice to the Commission of the intention to do so.

(2) The client shall notify the Commission of the intention to construct a well in instances where a major project is undertaken on behalf of an agency or organisation.

(3) The notice shall be made using the form "Notice of Intention to Undertake well Construction" specified in the Third Schedule.

**Environmental protection requirements**

**13.** (1) A person shall not construct a well in a manner that leads to contamination or pollution of groundwater or aquifer.

(2) A drilling contractor shall in order to avoid contamination of ground water ensure that

- (a) a well fitted with hand pump is sited at a minimum distance of thirty metres from the known source of real or potential contamination,
- (b) a mechanised well is sited at a minimum distance of one hundred metres from the known source of real or potential contamination,
- (c) shallow water whether contaminated or situated in, the overburden or rock is completely sealed off,
- (d) the minimum requirement for the sanitary seal of two metres of concrete grouting below the ground surface is satisfied,
- (e) well casing of not less than 0.5 metres above the ground or the floor of the finished pump house or pump pit is maintained if other measures are not taken to prevent direct inflow of surface water into the well,
- (f) immediately after the construction of the well, the top of the casing is closed with a tight closing or top head,
- (g) the well is properly sealed with a well head,

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- (h) the platform for a hand pump or the floor in the pump house is constructed in a manner that does not permit water to return to the well,
  - (i) the joints of casing segments are watertight, and
  - (j) other works and activities that the Commission directs for the prevention of contamination and protection of the environment are carried out.
- (3) A person who undertakes construction activity in the nature of
- (a) manual digging of a pit, or
  - (b) an activity that may result in contact with or access to groundwater
- shall ensure that the activity is carried out in a manner that avoids contamination or pollution of groundwater or aquifer.
- (4) In these regulations contaminants or pollutants of groundwater include sanitary facilities.

**Collection of drilling cuttings**

**14.** A drilling contractor shall collect samples of drilling cuttings at one- metre intervals and in the event of a sudden change in rate of penetration or lithology during drilling.

**Development of a well**

**15.** (1) A drilling contractor shall develop a well constructed by that contractor.

**Collection and analysis of water samples**

**16.** (1) A person who drills a well shall ensure that a water sample is taken, preserved and transported to a laboratory recommended by the Commission for water quality analysis.

(2) The cost of sampling, transportation and laboratory analysis shall be borne by the person constructing the well.

(3) The report on water quality to be submitted to the Commission shall contain the information specified in the Fourth Schedule.

**Inspection of a well site**

**17.** (1) An officer of the Commission authorised by the Commission shall at any reasonable time

- (a) have access to a well site,
- (b) inspect a well site and examine the material excavated from the site,
- (c) take drilling cuttings and samples of water abstracted from the well, and
- (d) inspect and make copies or extracts of the record required to be kept by the drilling contractor under these Regulations.

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(2) Where a drilling contractor constructs a well on land belonging to, or occupied by another person, the contractor shall be deemed to be the person constructing the well.

**Well records**

**18.** (1) A drilling contractor shall keep records of the progress of work .

(2) The records shall include

- (a) location and landmark of the activity site,
- (b) the Global Positioning System co-ordinates of the activity,
- (c) geological log certified and signed by a qualified hydrogeologist or geologist or geological technician,
- (d) the quantity of water first obtained and the depth,
- (e) the quantity of water obtained at reaching final depth of the well,
- (f) the size and position of casing and screen,
- (g) the duration and final yield at the close of the well development,
- (h) the completion date for drilling, and
- (i) the identification number of the well which shall be consistent with the national well numbering system.

**Submission of well records**

19. (1) Where the drilling activity consists of not more than five wells, the drilling contractor shall within sixty days of the cessation of the construction activity, submit a complete copy of the well records to the Commission.

(2) Where the drilling activity consists of more than five wells, the drilling contractor shall within ninety days of the cessation of the construction activity, submit a complete copy of the well records to the Commission.

(3) The well records shall be in relation to

- (a) wells which are successfully drilled,
- (b) dry wells, and
- (c) defective wells.

(4) The well records shall be submitted together with:

- (a) information on the development of the wells;
- (b) results of pumping tests conducted;
- (c) information on water quality as indicated in the Fourth Schedule;
- and
- (d) field test results.

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(5) The drilling cuttings referred to in regulation 14 shall be submitted to the regional offices of Ghana Geological Survey Department together with information on the location, landmark, and Global Positioning System co-ordinates of the well.

**Abandonment of dry wells**

**20.** (1) A dry well or a well that does not produce sufficient water during drilling shall be

- (a) backfilled to a depth of one metre below the ground level, and
- (b) grouted with cement.

(2) Where well records exist in relation to the well, an additional report to the Commission is not required.

(3) Where an attempt to develop a well fails and a dry well results, the "Notice of Intention to construct a well" shall apply for an alternative well construction.

**Abandonment of defective wells**

**21.** (1) The existence of an abandoned well shall be reported to the Commission.

(2) The report shall state the precise location of the abandoned well.

(3) The Commission may issue instructions to the owner of a defective well to abandon the well.

(4) Where the owner of a defective well fails to comply with the order given by the Commission,

(a) the Commission may take the necessary steps to execute the order, and

(b) the expenses incurred shall be surcharged to the owner of the well.

(5) Where a well with an installed casing has to be abandoned,

(a) the well shall be back filled to at least one metre below ground surface, and

(b) the casing in the unfilled portion shall be removed and effectively grouted with concrete.

(6) Where differences in water quality occur between two aquifers, the sealing between the aquifers shall be done in a manner to prevent exchange of water between the aquifers.

**Rehabilitation of defective wells**

**22.** (1) Where a well is found to be defective the well shall be rehabilitated by a contractor engaged by the client.



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- (2) The Commission shall be notified about the rehabilitation work on a well that involves changes to the well design and this includes
- (a) backfilling of the lower parts of the well,
  - (b) installation of a new screen or casing, or
  - (c) other construction activity of the well.
- (3) A contractor who undertakes the rehabilitation of a well shall submit a report on the rehabilitation to the Commission and the report shall
- (a) provide details of the location of the well, and
  - (b) be within the time limits given in regulation 19.

*Offences and miscellaneous matters*

**Offences**

**23.** (1) A person who carries out or allows the carrying out of well drilling activity for the abstraction of water without a licence from the Commission commits an offence and is liable on summary conviction to a fine of not more than two hundred penalty units or imprisonment for a term of not more than twelve months or to both.

(2) A licence holder who conducts drilling activities contrary to the conditions of the licence commits an offence and is liable on summary conviction to a fine of not more than two hundred and fifty penalty units or imprisonment for a term of not more than two years or to both.

(3) A landholder is not exempted from the provisions of these Regulations.

**Interpretation**

**24.** In these Regulations, unless the context otherwise requires,

"activity" means water well drilling;

"aquifer" means soil or rock medium located beneath the ground surface in which there is a flow of water;

"Commission" means Water Resources Commission established under the Water Resources Commission Act, 1996 (Act 522);

"defective well" means a well where the abstraction of groundwater has stopped due to reasons that include water quality problems, decline in yield or well collapse;

"drilling contractor" means an individual, company or body of persons licensed by the Commission to construct a water well;

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"drilling licence" means a permit to undertake water well drilling construction activity as provided for in regulation 1;

"groundwater" means water found beneath the ground surface which can be abstracted and accessed by digging, mechanized or manual drilling, or by any other method;

"grouting" means the sealing off of an opening beneath ground surface using cement concrete or other impervious material capable of preventing the flow of water across it;

"landholder" means a person who owns or occupies a piece of land;

"well" means a point for the abstraction, monitoring or conduct of research on groundwater put in place by a drilling activity;

"well head" means a permanent closure of the top of a well, either by a pump or other top which is specified for the casing diameter and which cannot be removed easily.

"yield" means potential discharge from a well.

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FIRST SCHEDULE

Regulation 2 (1)

Regulation 2 (3)

Regulation 6 (2)

REPUBLIC OF GHANA

WATER RESOURCES COMMISSION

**APPLICATION FOR DRILLING LICENCE**

*Company name:* .....

*Address:* .....

*PO. Box:*

*Tel:*

*Tel:*

*e-mail:*

*Registered Company No:*

*Full name of directors and their citizenship:*

*Name and address of Company's bankers:*

*List of equipment: (indicate whether owned or hired)* Specify and include as Annex 1

*list of key personnel (including field personnel of each drilling crew)* Specify and include as Annex 2

*List of projects carried out in the last 5 years:* Specify and include as Annex 3

*Name and address of two referees:*

I enclose GH Cedis 5,000,000 to cover the prescribed fee for this application

*Signature:*..... *Date:* .....

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**SECOND SCHEDULE**

Regulation 6 (1)

Regulation 7 (3)

REPUBLIC OF GHANA

WATER RESOURCES COMMISSION

<b>DRILLING LICENCE FEES FOR CATEGORIES OF DRILLING COMPANIES</b>		
CATEGORY	NO. OF SETS OF DRILLING EQUIPMENT	AMOUNT (GHC)
<b>ACQUISITION OF LICENCE</b>		
A	for not less than five years..	15,000,000
B	for a period between two and five years	10,000,000
C	for one year.....	5,000,000
<b>RENEWAL OF LICENCE</b>		
A	for not less than five years ..	5,000,000
B	for a period between two and five years	3,000,000
C	for one year .....	2,000,000
<b>FOREIGN CONTRACTORS</b>		
ACQUISITION OF LICENCE	by foreign contractors	50,000,000
RENEWAL OF LICENCE	by foreign contractors	20,000,000

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**THIRD SCHEDULE  
Regulation 12 (4)**

REPUBLIC OF GHANA  
WATER RESOURCES COMMISSION

**NOTICE OF INTENTION TO UNDERTAKE WELL CONSTRUCTION**

*Name:*.....

*Address:*.....

*P.O. Box:*.....

*Tel:*.....

*Tel:* .....

*e-mail:*

*No. of wells:*

*Location of proposed drilling site(s):*

*(If needed use additional sheet)*

*Proposed drilling contractor:*

*Drilling period:                      Start:                                      End:*

*Purpose of Use*

*Domestic/communal*.....                      *Commercial* .....

*Industrial/mining* .....

*Other (specify)* .....

*Agricultural*.....

*Will motorised pump be installed:*                      *Yes:*                      *No:*

*If yes, expected quantity of water to be abstracted(1):*                      *m<sup>3</sup>/day*

*Will hydrogeological survey be carried out:* *Yes:*                      *No:*

*Signature:*.....                      *Date:*.....

*Note: Where groundwater is known to be scarce, the WRC can require additional hydrogeological information to judge whether the intended purpose of abstraction is permissible.*

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## FOURTH SCHEDULE

Regulation 17 (3)

Regulation 19 (4)

REPUBLIC OF GHANA WATER RESOURCES COMMISSION
<b>WATER QUALITY PARAMETERS TO BE ANALYSED</b>
<i>Field measurements</i> Temperature pH Conductivity
<i>Laboratory analyses</i> Total Dissolved solids, TDS Turbidity, Total Hardness Nitrate - (NO <sub>3</sub> - N) Bicarbonate-HCO <sub>3</sub> Ammonia- (NH <sub>3</sub> -N) Phosphate- Total P Calcium - Ca Magnesium - Mg Sodium- Na Potassium - K Chloride - Cl Sulfate – SO <sub>4</sub> Fluoride - F Manganese - Mn Arsenic- As Total Iron - Fe

PROFESSOR CLEMENT DORM ADZOBU  
*Chairman of the Commission*

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