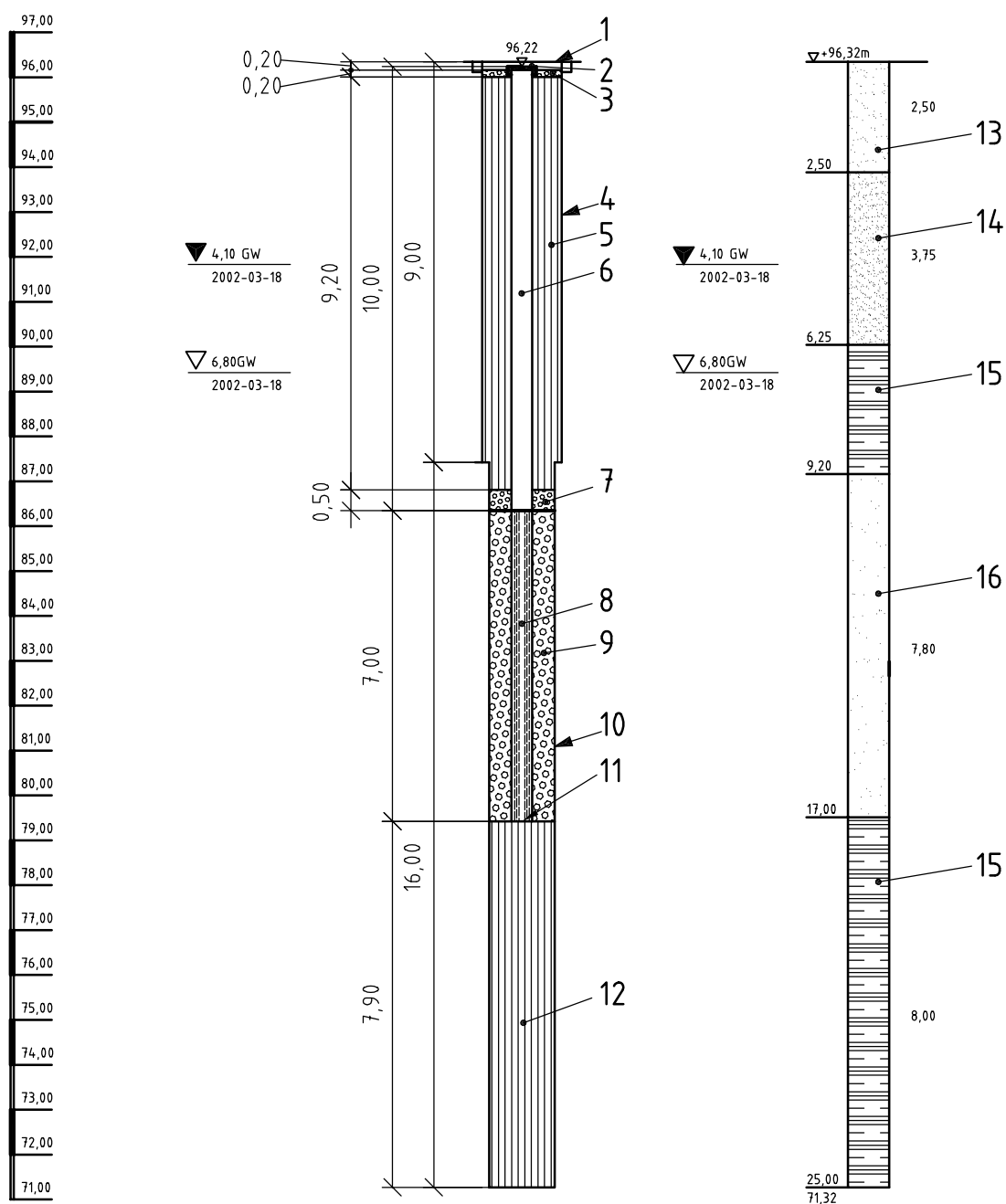


Dimensions in metres



Key

- | | | |
|------------------------------|---|-------------------------|
| 1 street cap | 7 counter-filter | 12 clay sealing |
| 2 top cap | 8 plastic screen (0,50 mm) | 13 sand |
| 3 borehole material | 9 filter gravel (grain size 1,0 mm to 2,0 mm) | 14 silt |
| 4 borehole (diameter 178 mm) | 10 borehole (diameter 146 mm) | 15 clay |
| 5 clay sealing | 11 bottom cap | 16 limestone |
| 6 plastic casing tube | | GW ground water surface |

Figure 10 — Example of the configuration of an open groundwater measuring system

12.1.8 Record of groundwater measurements

12.1.8.1 The record of groundwater measurements shall be attached to the summary log and include the following essential information, if applicable (see B.7).

a) General information:

- 1) name of enterprise performing the groundwater measurements;
- 2) name of client or representative;
- 3) date of groundwater measurements;
- 4) identification of the project;
- 5) identification of the borehole or piezometer.

b) Information on the measurement:

- 1) time for each separate groundwater measurement;
- 2) measured values;
- 3) measured atmospheric pressure;
- 4) calculated pressures;
- 5) comments on observations or performed checks of importance for the interpretation.

c) Other information:

- 1) name and signature of the qualified operator.

12.1.8.2 Further, a record of the calibration of groundwater measuring systems shall be supplied to the record of the groundwater measurements. The record of the calibration of groundwater measuring systems shall include the following essential information, if applicable (see B.8):

- a) date and place of calibration;
- b) the manufacturer and number of the calibrated device;
- c) the type, number and precision of the reference instrument;
- d) latest calibration;
- e) any information relevant for the application of the calibration;
- f) name and signature of the person who is responsible for the calibration.

12.2 Report of the results

The report of the results shall include the following essential information, if applicable:

- a) The field report (in original and/or computerised form);
- b) a final record of the identification and description of soil and rock, according to ISO 14688-1 and ISO 14689-1;

- c) a graphical presentation of the record of the drilling parameters;
- d) a graphical presentation of the final record of the identification and description of soil and rock;
- e) a graphical presentation of the backfilling;
- f) a graphical presentation of the piezometer;
- g) a graphical or numerical presentation of the results of the groundwater measurements;
- h) name and signature of the responsible expert.

Annex A

(informative)

Example of a form for the preliminary information on the intended sampling and groundwater measurements

Preliminary information on the intended sampling and groundwater measurements	
Project	
Location	
Number of boreholes, excavations and/or groundwater measurements	
Orientation, inclination and acceptable deviations in boreholes	
Surveying requirements and expected geological and hydrogeological conditions	
Required accuracy and uncertainty of measurements	
Frequency of measurements	
Environmental and safety risks (associated with, e.g. flushing media, suspensions)	☐ yes ☐ no If yes, please specify
Hazardous assessment for contaminated sites	☐ done ☐ not done ☐ not known ☐ not necessary
Possible risks	☐ yes ☐ no If yes, please specify ☐ underground services, such as ☐ overhead services, such as ☐ traffic, such as ☐ unexploded ordnance ☐ contamination, such as ☐ other, such as

Page 2	Preliminary information on the intended sampling and groundwater measurements	
Planned depth of the borehole or excavation		
Sampling category	☐ A	☐ B ☐ C
Sampling method(s)		
Sample handling		
Sample storage		
Sample transport		
Intended <i>in situ</i> testing	☐ yes	☐ no
	If yes, please specify ☐ standard penetration test ☐ borehole expansion tests, such as..... ☐ geophysical borehole tests, such as..... ☐ geohydraulic tests, such as..... ☐ piezometer installation ☐ other, such as.....	
Borehole completion method and site reinstatement (needs, material, methods, etc.)		
Environmental care		
Emergency arrangements		
Name of the contact person (client or representative)		
Flow of information		
Name of qualified operator		
Name of responsible expert		
Remarks		

Annex B (informative)

Field reports

B.1 Summary log

Summary log	Name of the enterprise		
Investigation type: borehole/trial pit/shaft/head *	Name of the client		
Name of the project		Number of the project	
Date:		Elevation	
Position		Borehole inclination	
		Borehole orientation	
Depth of the free groundwater surface	m	Borehole depth	m
Specifications and type of sampler used			
Attached records **	☐ drilling record ☐ sampling record ☐ backfilling record ☐ record of identification and description of soil and rock ☐ record of the installation of piezometers ☐ record of groundwater measurements ☐ others, such as		
Remarks (interruptions, obstructions, difficulties, etc.)			
Name of the responsible operator			
Signature of the responsible driller			
* delete if not applicable ** tick as applicable			

B.2 Drilling record

Drilling record		Name of the enterprise											
		Name of the client											
Name of the project				Number of the project									
Date of drilling				Identification of the borehole									
Drill rig (type, manufacturing year)				End depth of borehole									
Method of pre-drilling *				Ramming *									
Borehole diameters				mm				mm				mm	
Depth		Drilling		Drilling tool				Casing			Flushing medium		
from	to	Method	Soil cutting technique	Type, bit	Diameter mm	Drive	Flushing medium	Inner diameter mm	Outer diameter mm	Depth mm	Pressure	Circulated volume	
													Remarks
Remarks (interruptions, obstructions, difficulties, etc.)													
Name of the responsible operator													
Signature of the responsible operator													
* if used													

B.3 Sampling record

[illegible]

B.4 Record of identification and description of soil and rock

Name of the enterprise: Name of the client: Drilling method: Diameter: Project name:			Record of identification and description of soil and rock according to ISO 14688-1 and ISO 14689-1				Page:
Date: Inclination:							
			Trial pit:				
			Project number:				
Name and signature of the qualified operator:							
1	2	3	4	5	6	7	
Depth to m	Identification of soil or rock type Additional remarks Geological designation/stratigraphy	Colour Carbonate content	Description of the sample - Consistency, plasticity, hardness, uniaxial strength - Particle shape, matrix - Weathering, discontinuities, etc.	Description of drilling progress - Drillability/core shape - Use of chisel - Observations, etc.	Samples tests - Type - Number - Depth	Remarks - Seepage/flushing medium - Drilling tools/casing - Core loss - Core length	

Page 2

1	2	3	4	5	6	7
Depth to m	Identification of soil or rock type Additional remarks Geological designation/stratigraphy	Colour Carbonate content	Description of the sample - Consistency, plasticity, hardness, strength - Particle shape, matrix - Weathering, discontinuities, etc.	Description of drilling progress - Drillability/core shape - Use of chisel - Observations, etc.	Samples tests - Type - Number - Depth	Remarks - Seepage/flushing medium - Drilling tools/casing - Core loss - Core length