

DZ

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**Specifications for geophysical logging of coal
(English Translation)**

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1 Scope

This specification specifies the basic requirements for the design, instrumentation, measurement technology, raw material's quality evaluation, data processing and interpretation, report preparation, safety protection of geophysical logging of coal.

This code is applicable to geophysical logging work related to coal, coalbed methane, hydrology, engineering, environment, etc. (hereinafter referred to as.

geological exploration work of coal) in the geological exploration work of coal resource evaluation, coal mine basic construction, coal mine safety production.

2 Normative references

The provisions in following documents become the provisions of this Standard through reference in this Standard. For the dated references, the subsequent amendments (excluding corrections) or revisions do not apply to this Standard;

however, parties who reach an agreement based on this Standard are encouraged to study if the latest versions of these documents are applicable.

For undated references, the latest edition of the referenced document applies.

GBZ 142-2002 Radiological protection standard for sealed radioactive sources used in oil and gas-field logging

GBZ 19871-2002 Basic standards for ionizing radiation protection and radiation source safety

DZ/T 0069-1993 Schema/legend and color application standard of geophysical survey map

DZ/T 0181-1997 Hydrogeological logging work specifications

DZ/T 0196-1997 General technical conditions for logging instrument

DZ/T 0215-2002 Specifications for coal, peat exploration

GWF 02 Regulations on management of radioisotope and radiation accident

3 General

3.1

The drilling of coal geological exploration work shall be carried out in accordance with the requirements of this specification for geophysical digital logging (hereinafter referred to as logging).

3.2

If the drilling project is involved in the coal geological exploration work, in addition to the relevant logging technology chapter in the overall exploration design, it shall generally prepare the corresponding logging engineering design (hereinafter referred to as "design").

3.6

Logging work must pay attention to the test and comprehensive research.

On the basis of mastering the geological and geophysical characteristics of the construction area, select economical and technical parameters and methods.

3.7

All methods and instruments must be regularly calibrated, tested and well-site checked.

3.8

Logging shall measure all the information that can be measured by all the downhole instruments.

3.9 Determination of logging geological tasks

3.9.1

The determination of logging geological tasks shall be based on the requirements of overall exploration geological task, combined with the ability of logging technology to solve the geological problem, defined in the overall exploration design in the relevant logging technology chapters and logging engineering design.

4.1 Basic requirements

4.1.1

Design is the basis for guiding and implementing data collection, processing, interpretation, report preparation, result submission of logging work.

The project leader shall organize the relevant logging technicians to prepare it according to this specification and project contract requirements.

4.2.3 For general small (determined according to the actual situation of each

province) or lower level (pre-censored) survey projects, it may, based on the actual conditions, appropriately brief or only compile the logging part of the geological exploration design.

4.3 Review, approval, modification of design

4.3.1

The design shall be reviewed by the overall project undertaker in accordance with this specification and the overall project survey design, reported to the project supervisory unit for approval. Logging engineering design that has not been approved for inspection shall not be used as a basis for logging operations.

4.5 Test work

4.5.1

Where the geological-geophysical characteristics are not fully grasped and new methods and techniques need to be studied or promoted, it shall carry out the test work on the reference holes or representative drill holes, to determine effective logging parameters and interpretation law.

4.5.2

The reference hole must be cored in full hole. The length adoption rate of rock and coal core shall be higher than 75% and 90% respectively.

4.5.3

It shall prepare the test plan before the test. It shall prepare the test summary in time after the test.

5.2 Logging preparation

5.2.1

It shall, based on the design requirements, the drilling exploration data of the borehole to be tested, the logging data of adjacent hole, analyze the geological conditions of the borehole.

5.2.2 Check the working status of the instrument on site and follow the

requirements of Table B.3 in Appendix B to fill in the inspection results. At the same time, the data related to the adjustment and test must be recorded in digital and monitored records, meanwhile the corresponding charts shall be drawn and well kept.

5.3 Drilling preparation

5.3.1

There shall be more than 10 m of open space in front of the drill floor of the well site. It shall ensure the smooth entry and exit of the logging vehicles.

5.3.2

The final hole's depth must ensure that all downhole instruments can measure 5 m below the lowest level of the target. The final hole's diameter shall be 20 mm larger than the outer diameter of the well.

5.4 Well site layout

5.4.1

Logging equipment shall be properly placed. The distance between the winch and the wellhead shall be greater than 10 m and can be viewed through.

5.4.2

The downhole cable shall pass through the center of the orifice. The ground wheel's groove shall be perpendicular to the axis of the winch drum and aligned with the midpoint of the drum.

6.1 Original record

6.1.1

The original record shall generally include.

6.2 Measuring range

From 5 m ~ 10 m below the deepest target layer to 10 m ~ 20 m of the depth of the wellhead. Special intervals are carried out as required by the design or logging notice.