

According to Article 9, Paragraph 4 of the Law on mineral raw material (“Official Gazette of the Republic of Macedonia” No.24/07), the Ministry has adopted the following:

RULEBOOK

ABOUT THE CONTENT AND THE MANNER OF PREPARATION OF THE GEOLOGICAL DOCUMENTATION FOR PERFORMANCE OF BASIC GEOLOGICAL EXPLORATION

I- GENERAL PROVISIONS

Article 1

This Rulebook prescribes the content and the manner of preparation of the geological documentation for basic geological explorations performance.

Article 2

Pursuant to Article 9, Paragraph 1 of the Law on Mineral Raw Material the geological documentation for mineral resources is being prepared in electronic and paper form and the same consists of:

1. Basic geological explorations project;
2. Basic geological explorations analyses;
3. Basic geological explorations report;
4. Geological maps with interpreters;

II-BASIC GEOLOGICAL EXPLORATIONS PROJECT

Article 3

Basic geological explorations performance project

The basic geological explorations performance project consists of:

- 1) General data for the project
- 2) Textual part
- 3) Graphic documentation

Article 4

The general data for the project for performance of basic geological explorations performance project shall consist of:

- 1) Project and firm's title, i.e. other legal entity, that prepared the project, a signature by the chief draftsman on the left side and an authorized person representing the firm on the right side, place and year of production of the project;
- 2) A list of co-workers in the project's production with their handwritten signatures;
- 3) An evidence that the firm, i.e., the other legal entity that made the project has been registered in the “Central registry of the Republic of Macedonia” for projecting in the area of geological researches;
- 4) Other evidence that the chief draftsman meets all requirements prescribed by law in relation to the professional training and working experience.

Article 5

Textual part of the project for performance of basic geological explorations

The textual part of the project for basic geological explorations performance shall consist of:

- 1) Project's content;
- 2) Project's task;
- 3) Introduction;
- 4) General data for the research area;
- 5) A revision of previously conducted explorations with results from the explorations and a conclusion for terrain's exploration degree
- 6) Project resolutions for the process of geological explorations;
- 7) A subject with a description of the technical conditions for performance of the exploration works;
- 8) Exploration works performance's dynamics
- 9) Exploration costs' calculation;
- 10) Economic explanation of the project;
- 11) Measurements for protection during work and protection from fire during performance of the exploration works;
- 12) Measurements for protection of the environment and
- 13) A list of literature and fund's documentation

Article 7

Introduction

The introduction shall consist of:

- Aims for project's production
- Participants in the project
- Conditions under which the project has been produced
- Time for project's production

Article 8

General data for the exploration area

The general data for exploration area shall consists of:

- Geographical setting of the exploration area with
- Morphological and hydrological characters of the exploration area;
- Climate conditions;
- Traffic connections;
- Population of the exploration area and
- Data for historic monuments and other facilities under country's protection.

Article 9

The review of the previous explorations shall consist of:

- History of explorations;
- A review of the applied methods of exploration;
- Sites explored;
- Volume and density of explorations for each applied methods. On basis of the data from the previous explorations shall be given:
 - A critical review of the applied methodology for exploration, exploration's achievement degree and validity of the available data for the explorations performed.
 - A short review of the geological, metallogenic, minerogenic, coal and oil, hydrogeological and engineering-logical characteristics of the exploration area;
 - Indicators of geological-economic mark for the prospective of the exploration area as a whole or some parts in respect of the locations of mineral raw material (energetic, metallic, non-metalic, building material, groundwater water- drinkable ,mineral and thermal), or a mark for the eligibility in relation to the building of facilities.

Article 10

Project solutions for the process of geological explorations

The geological explorations of project resolutions are being given for all types of exploration works and consist of the conception and methodology for the explorations for introduction and establishment.

- 1) Geological characteristics for the exploration area;
- 2) Metallogenic and minerogenic, coal and oil, geothermal or hydrogeological, i.e. engineering-geological characteristics of the exploration area and
- 3) Classification and categorization of reserves of mineral raw materials.

Article 11

An item with a description of the technical conditions for exploration work's performance.

Conceptual and methodological solutions for exploration of the geological characteristics of the exploration area shall be given to introduce and establish:

- 1) Genetic and lithostratigraphic types of magmatic, sediment and metamorphic rocks and
- 2) Structural assembly of separate lithostratigraphic types of rocks and the exploration area as a whole.

Article 12

Conceptual and methodical solutions of the exploration of metallogenic and minerogenic, coal and oil characteristics of the exploration area shall be given because of meeting and establishment of:

- 1) Perspective area in respect of the opportunity for finding new locations of mineral raw materials for the exploration area;
- 2) An opportunity for discovering new locations of the mineral resources in the boundaries of the separated explored area;
- 3) Genesis and factor of control of area dislocation of the locations of mineral resources (magmatic, structural, lithological and other ;)
- 4) Location characteristics, i.e. ore bodies which are basis for their division in groups and subgroups.

- 5) Size and complexity of the shape (morphological characteristics of the ore bodies and locations);
- 6) Belonging to certain genetic types, i.e. mining formations;
- 7) Mineral compositions and its characteristics;
- 8) Character of the sharing of useful and harmful components and
- 9) Occupation with the post ore tectonic motions;

Article 13

Conceptual and methodological solutions for hydrogeological explorations

Conceptual and methodological solutions for exploration of the hydrogeological characteristics of the explored area shall be given for introduction and establishment of:

- 1) The perspective of the area in relation to the opportunity for discovery of groundwater in the explored area;
- 2) Area setting of the water environment in which there is the location of groundwater;
- 3) Hydrogeological parameters and characteristics of the aquiferous environment, and at closed and semi-closed parameters and their elevation;
- 4) Characteristic of the groundwater which determines their usage;
- 5) Groundwater resources and conditions for their exploitation and
- 6) Conditions for pollution of groundwater;

Article 14

Conceptual and methodological solutions for exploration of the engineering-geological explorations

The conceptual and methodological solutions for exploration of the engineering-geological characteristics of the explored area shall be given for introduction and establishment of:

- 1) Engineering –geological characteristics of the terrain;
- 2) Engineering-geological and technical properties of the rock mass;
- 3) Egzo-dynamic processes and occurrence, cause for their formation, dynamics of development and sanction opportunity;

- 4) Engineering-geological classification of terrain in respect of terrain's stability, payload, seismic micro-partitioning and eligibility for construction and other;
- 5) Engineering-geological conditions for building of facilities (settlements, roads, railways, dams, accumulations, airports ,tunnels ,bridges and other);
- 6) Occurrence and locations of geological building materials and
- 7) Impact of the modern geological and engineering-geological processes upon the environment.

Article 15

Conceptual and methodological solutions for the explorations for classification and categorization of mineral raw materials reserves.

Conceptual and methodological solutions for explorations and classification and categorization of mineral raw material reserves on the exploration area shall be given because of introduction to:

- 1) Conditions of locations, dip, spreading, size, shape and building of the location, i.e. ore bodies, all useful and harmful mineral substances, their mutual relation and distribution of area ;
- 2) Chemical composition, physical-chemical, physical-mechanical and technological properties of the mineral raw materials, as well as the possibility for their application;
- 3) Tectonic, geotechnical (engineering-geological, hydrogeological, geo-mechanical) and other parameters (gas condition), which determine the conditions for exploitation work performance and
- 4) Geological, genetic, technical-exploitative, technological, regional, market and social-economic factors and naturally valuable indicators, on basis of which the classification is being made and the mineral resources supplies.

Article 16

Conceptual and methodological solutions of explorations for classification and categorization of the groundwater reserves

The conceptual and methodological solutions of the explorations for classification and categorization of the groundwater reserves, shall be given because of introduction and establishment of:

- 1) Geological building of the location;
- 2) Area setting and parameters of the aquiferous environment;
- 3) Yield of the aquiferous environment and partitioning in relation to the yield's degree;
- 4) Quality and regime of the groundwater;
- 5) Exploitation possibilities for the location and certain perspective areas;
- 6) Hydrogeological and hydro technical conditions of occupation of the groundwater and conditions for their sanitary protection.

Article 17

The case with the description and the technical conditions for exploration works performance

The case with the description and the technical conditions for exploration works performance shall consist of:

- 1) The most economical and rational varieties of concepts of explorations;
- 2) Precisely defined quantity of work with defined micro locations of each exploration work on the exploration area;
- 3) Important constructive characteristics of each exploration work (descriptive and graphical);
- 4) Detailed description of the technical conditions for each exploration work and
- 5) Local requirements for realization of the projected explorations (transport conditions, water supply, energy supply, accommodation and other requirements).

Article 8

Dynamics of exploration work performance

Dynamics of exploration work performance shall contain the real time of total duration of the projected exploration works each by a position of performance.

If it is about a long-term project of exploration, a dynamic of the exploration works is given by years, in other words exploration phases.

The dynamic plan is given in a graph on A3 format paper in which there are included the types of the works by positions and the time period for their performance.

The graphic presentation of the dynamic plan is given in Form 1. Dynamic plan.

Article 19

Exploration costs calculation

The exploration costs calculation contains individual process by type of working position for each exploration work and a cumulative price for the total work envisaged according to the project for basic geologic explorations.

Costs' calculation is based on the current prices at the moment of projecting, the research or foreseen price at the time of making the agreement.

Article 20

Economic explanation of the project

The economic explanation of the project shall consist of comparative analyses of the exploration costs and the economic effects that could be achieved by right application of the exploration results.

The economic explanation of Paragraph 1 of this Article serves to show the justification of the exploration.

Article 21

Measures for protection

The explorer is obliged to enforce the measures for protection during work, fire protection and protection of the living environment for people's life and health and property and the same are an obligatory attachment to the project for geological explorations.

Article 22

Exploration project's content

The exploration project's content shall consist of titles of chapters contained in the project and numbered pages.

The numbering of project's titles shall be made with Roman numbers for the independent paragraphs-parts of the project, and with Arabic numbers in the framework of the independent paragraph-part of the project but it shall not be larger than the fourth level, example (1.1.1.1).

Article 23

A literature and fund's documentation list

The literature and fund's documentation shall consist of:

- 1) Ordinal number of the used material ;
- 2) Name and surname of the author, and title of the project's organization;
- 3) Work's title and year of publishing, i.e. production;
- 4) Title of the contractor, i.e. the company, i.e. other legal entity where is placed the used documentation;

Article 25

Graphic documentation

The basic geological explorations project shall consist of:

- 1) Well-arranged geographic map in a scale of 1:100 000 with inscribed borders of the exploration area;
- 2) Well-arranged geological map in a scale of 1:000 000 with inscribed borders of the exploration area;

Depending on the type of the explorations the project additionally shall contain:

- 3) Well-arranged, hydrogeological, engineering-geological map and other kind of map in a scale of 1:100 000 with inscribed borders of the exploration area.
- 4) Geological, hydro-geological, engineering-geological map and other kind of map on the wider area of the exploration site in a scale to 1:25 000 with inscribed projected exploration works;
- 5) Forecasting geological, hydrogeological, engineering-geological profiles in a scale of 1:25 000;
- 6) Geological plans and profiles in a scale of 1:5 000 for the subterranean mining areas with inscribed projected exploration works and forecasting results and ,
- 7) Synthesis of a graphic description of formerly made geological, hydrogeological and engineering-geological explorations with an appropriate scale.

III –Study for the basic geological explorations

Article 25

A composite part of the Study for basic geological explorations are the Analyses for basic hydrogeological and engineering-geological explorations.

A. The content of the Study for basic geological explorations

The study for the results of the geological explorations (further in the text: the Study) shall contain:

- 1) General data for the study;
- 2) Textual part of the study;
- 3) Graphic documentation;
- 4) Documentation material;

Article 27

General data for the study

The general data for the study shall comprise:

- 1) Study and firm's title, i.e. other legal entity which made the study, the author's signature and a signature by the study's author on the left side and a signature of the authorized person of the firm on the right side, place and year of study's production;
- 2) A list of co-workers with a handwritten signature;
- 3) An evidence of the firm, i.e. the other legal entity that is registered in the Central Register of the Republic of Macedonia” for study's production for the results of the geological explorations and
- 4) An evidence that the study's author meets all requirements regarding professional training and working experience prescribed with law.

Article 28

Textual part of the study

The study part of the study shall consist of:

- 1) Introduction;
- 2) Goal and mode of exploration
- 3) Geological characteristics of the exploration area;

- 4) Type and description of the works explored;
- 5) Inspection of quality;
- 6) Recommendations for further explorations;

Introduction

Article 29

The introduction shall consist of:

- 1) General data for the exploration area;
- 2) Time when the explorations are made;
- 3) Morphologic-hydrogeological and climate characteristics of the area;
- 4) A review of previous explorations with a short review of the exploration's results and the exploration's degree and
- 5) Geological characteristics on the wider area.

Article 30

Goal and mode of exploration

The goal and method of exploration shall consist of:

- 1) Issues of the exploration which are solved on basis of the project
- 2) Goal and use of the exploration
- 3) Requirements and a mode of exploration.

Article 31

Geological characteristics of the exploration area

- 1) Geological composition and tectonics;
- 2) Genesis of the site;
- 3) Hydro-geological characteristics and
- 4) Engineering-geological characteristics.

Article 32

Type and description of the exploration works

The type and description of the exploration works shall consist of:

- 1) Conceptual and methodological solutions in the exploration of metal- generic, mineral-genetic, carboniferous and petroliferous characteristics of the exploration area;
- 2) Conceptual and methodological solutions of the explorations of the geological characteristics of the exploration area;
- 3) Conceptual and methodological solutions of the exploration of the hydrogeological characteristic of the exploration area;
- 4) Conceptual and methodological solutions of the explorations of the engineering-geological characteristic of the exploration area;
- 5) Conceptual and methodological solutions of the explorations for classification and categorization of the mineral raw material reserves in the exploration area;
- 6) Conceptual and methodological resolutions of the explorations for classification and categorization of the groundwater reserves;
- 7) Detailed elaboration of the conceptual and methodological resolutions for certain types of explorations are given in part for project production for geological explorations;
- 8) Mode of explorations and
- 9) Description of the exploration works.

Article 33

Quality examination

The examinations of quality shall consist of:

- 1) Modes of testing;
- 2) Laboratory and technological explorations results
- 3) An assessment of the results of the quality examination

Article 34

Suggested recommendations for further explorations

This part shall contain the results from the basic geological explorations with recommendations or directions for conditions for further detailed geological explorations.

Article 35

B. Study's content for basic hydrogeological explorations

The study for the results from the basic hydrogeological explorations (further in the text; the Study) shall contain:

- 1) General data for the study;
- 2) Textual part of the study;
- 3) Graphic documentation and
- 4) Documentation material.

Article 36

General data for the study

The general data for the study shall consist of:

- 1) Study and firm's title, i.e. other legal entity which made the study, a signature of the study's author on the left side and a signature of the authorized person in the firm on the right side, place and year of study's production;
- 2) A list of co-workers in study's production with a handwritten signature;
- 3) An evidence that the firm, i.e. other legal entity is registered in the “Central Registry of the Republic of Macedonia” for a study production for the results and the hydrogeological explorations and
- 4) An evidence that the author of the study in relation to the professional training and working experience that meets the requirements envisaged by law.

Textual part of the study

The textual part of the study shall consist of:

1. Introduction;
2. Applied exploration methodology
 - Level of previous knowledge
 - Newly performed explorations and examinations;
 - Factographic presentation during the exploration;
 - Degree of hydrogeological exploration;
3. Geomorphological characteristics of terrain;
4. Hydro -meteorological characteristics;
5. Hydrographic and hydrological characteristics
6. Geological composition;
 - previous geological explorations;

- a description of the lithological composition
 - tectonics;
7. Hydrogeological characteristics on terrain;
- Former hydrogeological explorations;
 - Types of groundwater;
 - Conditions for formation of aquifer
 - Sub-artesian and artesian pressures and levels of groundwater;
 - Dimensions, borders and position of the aquifer zones;
 - Definition of hydrogeological parameters;
 - A review towards the chemical and physical properties of groundwater’s quality;
- Hydrogeological partitioning of terrain;
 - Hydrogeological function of the lithological members;
8. Conclusions and recommendations.

Article 38

C. Content of the Study for basic engineering-geological explorations

The Study for the basic engineering-geological explorations (further in the text: study) shall consist of:

- 1) General data for the study;
- 2) Textual part of the study;
- 3) Graphic documentation;
- 4) Documentation material;

Article 39

General data for the study

The general data for the study shall consist of:

- 1) Study and firm’s title, i.e. other legal entity that made the study, a signature of the study’s author on the left side and a signature of the authorized person in the firm on the right side, place and year of study’s production;
- 2) A list of collaborators in study’s production with a personal handwritten signature;
- 3) An evidence that the firm, i.e. other legal entity is registered in the ” Central Registry of the Republic of Macedonia” for study’s production for the results of the hydrogeological explorations and

- 4) An evidence that the study’s author meets all requirements envisaged by law in respect of the professional training and working experience.

Article 40

Textual part of the study

Textual part of the study shall consist of:

1. Introduction
2. Position and physical-geographic characteristics of the explored terrain;
3. Applied exploration methodology;
 - Level of previous knowledge
 - Newly performed explorations and examinations;
 - Factographic presentation during the exploration;
 - Engineering-geological exploration degree;
4. Geomorphological characteristics of terrain
5. Geological composition
 - Description of the lithological composition ;
 - Tectonics;
6. Basic hydrogeological characteristics;
7. Engineering-geological characteristic of terrain;
 - Engineering-geological classification of the rock mass;
 - Criteria for separation of the engineering-geological units;
 - Hydrogeological occurrences;
 - A review of the area and mutual relations of the rock masses;
 - Heterogeneity
 - Discontinuity
 - Anisotropy
 - A review of the voltage condition consisted in the terrain;
 - Analyses of the laboratory examination results;
 - Extrapolation of the results of the massif’s testing body;
 - Contemporary geological and engineering –geological occurrences and processes;
 - Physical-mechanical characteristics of soil materials;
 - Analyses of data;

- An influence of the engineering-geological (geo-mechanical characteristic) on the project and performance technology;
- 8. Conclusions and recommendations.

Article 15

Graphic documentation as a part of the basic geological, hydrogeological and engineering- geological explorations study

The graphic documentation shall consist of:

- 1) Well- arranged geological map in a scale of 1:100 000 on inscribed exploration area;
- 2) Geological, hydrogeological or engineering-geological map of the wider exploration area in a scale of 1:25 000 (100 000);
- 3) Geological, hydrogeological or engineering-geological map of the exploration area with inscribed exploration works in a scale of 1:25 000 and
- 4) Geological, hydrogeological and engineering-geological profiles in a scale of 1: 25 000 or 1:10 000.

Article 42

Documentation material

The documentation material, depending on the type of exploration, shall consist of:

- 1) Results from the chemical, mineralogical, sedimentological and other explorations important for the exploration area and
- 2) Results from the hydrogeological, engineering-geological, geo-mechanical, geo-physical and other exploration.

IV- Basic Geological Explorations Report

Article 43

Basic geological explorations report

The report for the performed basic geological explorations shall be given in a written form with the following content:

- 1) Introduction
- 2) Envisaged and performed exploration works and a description of the obtained results
- 3) Graphic presentations

Article 44

The introduction shall consist of:

- 1) General data for the exploration area;
- 2) Exploration's goal and
- 3) Time of exploration's performance.

Article 16

The forecasted, performed, exploration work and the description of the obtained results shall contain:

1. A description of the envisaged, exploration and evaluation works of the project for basic geologic explorations according to type and volume;
2. Description of the performance of the exploration and evaluation works
3. The manner of data procession and a description of the obtained results from the detailed geological explorations conducted with suggestion recommendations.

Article 46

Graphic presentations as part of the basic geological exploration report are:

1. Well-arranged geological, hydrogeological or engineering-geological map in a scale of 1:100 000 with an inscribed exploration area and
2. Position map of envisaged and performed exploration works in a scale of 1: 10 000 or 1: 5 000.

If certain situations (positions) in the textual description in the report need to be clarified and presented, the same can be supported with appropriate profiles, sketches, figures etc.

V- Geological maps with interpreters

Article 47

Geological maps with interpreters

The basic geological map shall consist of one basic map and through numerous additional maps, geological profiles and pillars, an interpreter, table sheet and picture attachments of the interpreters and the documentation.

The parts of the Basic geologic map are distributed in the following groups:

- A paper with the basic map
- Compulsory additional maps
- Optional additional maps
- An interpreter with attachments and
- Documentation

Article 17

The basic geological map

The paper of the basic geological map is a cartographic sheet of paper with dimensions of 89,0 x 63,0 cm, which comprises the following parts:

- Basic map 1:100 000;
- Geological pillar;
- Geological profiles and
- Positional map

Article 49

Compulsory additional maps

The compulsory additional maps are:

- Maps metal- genetic 1:200 000 and
- Maps metal-genetics 1:200 000 and
- Maps lithofacies 1:200 000.

Article 51

An interpreter of the basic geological map

The interpreter for the basic geological maps is a textual part that should comprise the following contents:

1. Introduction

It gives brief data for the paper, who mapped it and when, who elaborated each problem (sedimentologically, paleontologically, petrologically ect.)

2. Geographic review

In this chapter are shortly given the geographic position of the terrain comprised in the paper of the geological map and its main orographic and hydrographic characteristics. This chapter must be sent with a well-arranged geographic map 1:1.000 000 with inscribed borders on the working paper and more important settlements.

3. A review of recent explorations

In this chapter are given chronologically all previous explorations with a short description of the solved problems and obtained results from these explorations.

4. A description for the general geological composition of terrain

This chapter shall give a short review of the entire geological composition that is a resume of the entire interpreter. At the end of the description of the geological composition shall be given data for newly discovered data and problems that have remained unsolved. This chapter shall be submitted with a well-arranged geological map in a scale 1: 200.000.

5. A description of the mapped units

The mapped units shall be presented according to age, starting from the younger. The magmatic shall be described according to the age where they belong. The description of the mapped units describes their composition in details, their spatial layout etc.

6. Tectonics

This chapter shall give a general picture for the tectonic partitioning, for the large units, genesis and the time relation with the deformations. In addition to the description for the tectonic building a tectonic map in a scale of 1:200 000 is regularly given.

7. Ore occurrences

This chapter shall give a review of the mineral raw materials on the given paper in a type of mineral occurrences and sites. In attachment of this chapter is given a well-arranged map of mineral sources 1:200.000.

8. History of creation of the mapped area

A chronological overview of sedimentation, magmatic, metamorphisms, tectonic and making of mineral resources with all supporting emerges.

Author's original of the Basic map (made in the same size with the final map that shall be printed 1:100 000, as well as in the size of working terrain map 1:25 000 or main 1:50 000 and a terrain working 1:10 000).

Article 52

Hydrogeological maps with interpreters

The basic hydrogeological map shall consist of additional maps, hydrogeological and pillars, an Interpreter, table sheet and a photo presentation of the Interpreter and documentation.

The composite parts of the Basic hydrogeological map shall be distributed in the following group:

- A paper of the basic map;
- Compulsory additional maps;
- Optional additional maps;
- An interpreter with the attachments;
- Documentation.

Article 53

A paper of the basic map

The paper of the basic map is the cartographic sheet of paper with dimensions 89, 0 x 63, 0 cm, which shall contain all parts:

- Basic map 1:100 000;
- Hydrogeological pillar;
- Hydrogeological profiles and
- Positional map.

Article 54

Compulsory additional maps

The compositional maps are:

- Water facilities map 1:100 000;
- Mouths' map and observatory map 1:300 000 (1: 500 000);
- Water's quality map 1:300 000;

- Map of the endangered aquifers from the contamination 1:300 000 and
- Rain’s map and air’s temperature map 1:300 000.

Article 55

Optional additional maps

Optional additional maps are:

1. Groundwater flow maps 1:100 000 shall contain:
 - Infiltration coefficient and specific infiltration of the plain area;
 - Coefficient of ground flow, specific ground flow of forested areas;
 - Flow coefficient and specific flow of the forested areas;
 - Observatory stations which are the base for defining some of the abovementioned parameters.
 - Watersheds of the river mouth areas where the above-mentioned parameters are assessed by observations, calculations or only by similarity
 - Topographic data as in the topographic map.

2. The other optional maps should contain data for:
 - hydrogeological characteristic of the porous environment;
 - thermo-mineral and hydro chemical properties;
 - hydrogeological data important for the water management
 - geographic and geological data and
 - type (mode and deepness of the exploration) and locations of the geophysical exploration works, terrain’s exploration extent.

Article 56

An interpreter for the Basic hydrogeological map

The interpreter is a textual part of the Basic hydrogeological maps, and it shall be made with the following content and graphic attachments:

Content of the interpreter:

1. Introduction;
2. Exploration works;

- 2.1. Previous explorations;
- 2.2. New explorations;
- 2.3. The degree of the terrain's hydrogeological exploration;
3. Geographic marks;
 - 3.1. Geographic position;
 - 3.2. Relief;
 - 3.3. Climate;
 - 3.4. Vegetation cover;
 - 3.5. Surface water;
4. Geological map;
 - 4.1. Stratigraphy
 - 4.2. Tectonics
5. Geomorphological marks;
 - 5.1. Geomorphological processes;
 - 5.2. Important geomorphological occurrences;
6. Basic hydrogeological mark;
 - 6.1. Hydrogeological regionalization ;
 - 6.2. Hydrogeological markings of separate areas;
 - Hydrogeological properties of the rocks;
 - Hydrogeological function of the terrain (for forested terrains);
 - Hydrogeological characteristics for the most important aquiferous;
7. Groundwater drinkable water reserves;
 - 7.1. Degree of supplies familiarity;
 - 7.2. Static reserves;
 - 7.3. Dynamic reserves;
 - 7.4. Exploitation reserves;
8. Thermal and mineral water;
9. Hydrogeology and water management issues;
 - 9.1. Water supply;
 - 9.2. Quality of groundwater and drinkable and watering ground water;
 - 9.3. Groundwater drinkable water reserves balance
 - 9.4. Hydro technical buildings;
 - 9.5. Groundwater's protection
 - 9.6. Groundwater's defense

9.7. Conclusion and recommendations.

Interpreter’s attachments:

1: Different types of sketches, profiles, diagrams eventually and photos.

3. Obligatory attachments:

- monthly rain quantity;
- Level graphs of groundwater;
- Diagrams of the yield;
- Water analyses, i.e. models, table sheets, diagrams etc.
- Positional map of the works performed in the frames of the basic hydrogeological map and
- Hydrogeological Cadaster

Article 57

Documentation

The documentation of the Basic hydrogeological map shall consist of the following written and drawn materials:

1. Project and performance documents;
 - project task;
 - a project with an additional exploration work program;
 - annual reports;
 - final report;
2. Notes and terrain materials;
 - Notes on the well-arranged bases and specialized literature;
 - Terrain journal;
 - Terrain base map;
3. Additional explorations report;
 - Terrain explorations;
 - Laboratory explorations and
 - Office and study works.
4. Author’s original of the basic map (made in the same size as the final map 1:100 000, as well as in a size as the working terrain map 1:25 000).

Article 58

Basic engineering-geological map with an interpreter

The basic engineering-geological map shall consist of one basic map 1:100 000 and additional maps, engineering-geological profiles and pillars, an Interpreter, table sheets and picture attachments of interpreters and documentation.

The composite parts of the basic hydrogeological map are distributed in the following groups:

- A basic map paper,
- Additional maps,
- An interpreter with attachments and
- Documentation.

Article 59

Basic engineering-geological map

The basic engineering-geological map shall consist of the following elements:

- Engineering-geological units shall be separated according to the engineering-geological properties;
- borders of engineering units spreading,
- Engineering-geological occurrences on the terrain,
- Hydrogeological occurrences, important for the engineering-geological aspect,
- Geomorphologic occurrences and
- Terrain seismic.

Article 60

The interpreter for the basic hydrogeological maps

It shall comprise the following contents:

1. Introduction;
2. Physical-geographic characteristic of terrain;
3. A review of the past explorations;

4. An overview of terrain’s geology;
5. Geomorphological characteristic of terrain;
6. Hydrogeological characteristic of terrain;
7. Engineering-geological characteristics of terrain,-engineering-geological characteristics of rocks and rock masses;-engineering-geological processes and occurrences;
8. Geological building material sites;
9. Terrain seismic;
10. Conclusion;

VI- A study on assessment of the living environment influence

Article 61

The content of the Study on assessment of the living environment influence is envisaged by the Law on the Living Environment.

VII- Final Provision

Article 62

This rulebook enters into force the day after its publication in (“Official Gazette of the Republic of Macedonia”).