

English for Geology Students. 2

Lidija Beko



Дигитални репозиторијум Рударско-геолошког факултета Универзитета у Београду

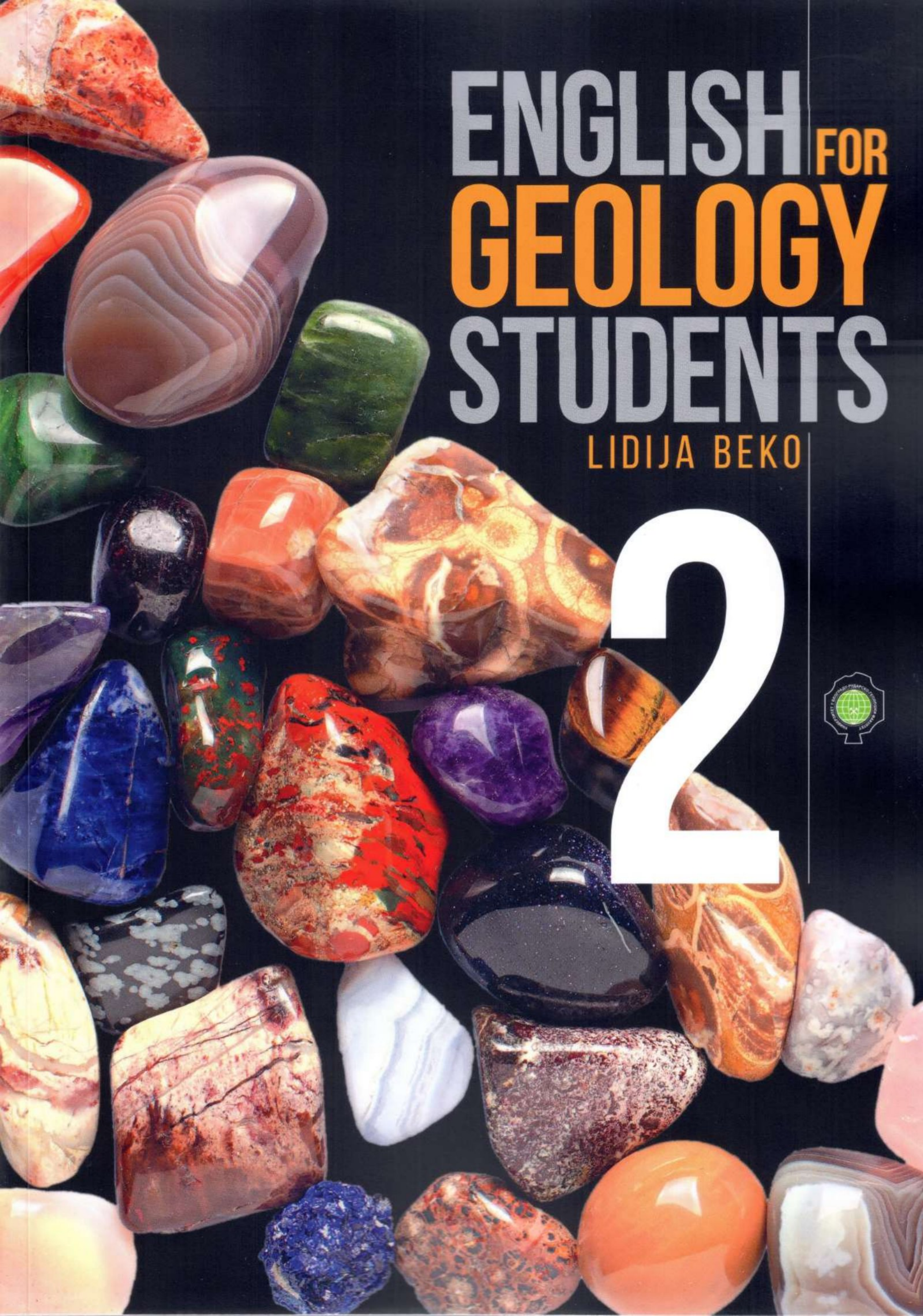
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ENGLISH FOR GEOLOGY STUDENTS

LIDIJA BEKO

2



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ENGLISKI JEZIK ZA GEOLOGE

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To my brother Milan

Table of contents

Foreword9

**• Unit 1 •
LANDSLIDES**

Part 1 SOIL FORMATION 12
Vocabulary 15
Reading Comprehension 16

Part 2 MASS WASTING AND TYPES 22
Vocabulary 21
Reading Comprehension 23

Part 3 SLOPE STABILITY 25
Vocabulary 26
Reading Comprehension 27
Grammar spot 28
Exercises 29
Geological Wonders 30
Profession – Young Geotechnician 32
Geology Mystery Files 33
Geology through Myths 36

**• Unit 2 •
METAMORPHIC ROCKS AND GEMSTONES**

Part 1 CAUSES AND DEFINITION 46
Vocabulary 43
Reading Comprehension 45

Part 2 METAMORPHIC TEXTURES 46
Vocabulary 48
Reading Comprehension 49

Part 3 METAMORPHIC GEMSTONES 50
Vocabulary 53
Reading Comprehension 55
Grammar Spot 56
Exercises 57
Geological Wonders 58
Profession – Young Crystallographer 59
Geology Mystery Files 60
Geology through Myths 64

Table of contents

• Unit 3 •

MINERAL DEPOSITS

Part 1	COAL AS A FOSSIL FUEL	70
	Vocabulary	73
	Reading Comprehension	74
Part 2	OIL AND NATURAL GAS	76
	Vocabulary	79
	Reading Comprehension	80
Part 3	METALS AND GEMSTONES	82
	Vocabulary	86
	Reading Comprehension	87
	Grammar spot	88
	Exercises	89
	Geological Wonders	91
	Profession – Young Petroleum Geologist	92
	Geology Mystery Files	93
	Geology through Myths	96

• Unit 4 •

HYDROLOGICAL CYCLE AND GROUNDWATER

Part 1	HYDROLOGICAL CYCLE	100
	Vocabulary	102
	Reading Comprehension	103
Part 2	GROUNDWATER	104
	Vocabulary	106
	Reading Comprehension	107
Part 3	THERMAL WATER	108
	Vocabulary	110
	Reading Comprehension	111
	Grammar Spot	112
	Exercises	112
	Geological Wonders	113
	Profession – Young Hydrologist	114
	Geology Mystery Files	115
	Geology through Myths	118
	Diamond, the Supreme Gemstone	119

Table of contents

• Unit 5 •

SURFACE WATERS AND GLACIERS

Part 1	SURFACE WATER.....	122
	Vocabulary.....	125
	Reading Comprehension.....	126
Part 2	GLACIERS.....	128
	Vocabulary.....	131
	Reading Comprehension.....	133
Part 3	MILANKOVITCH CYCLES.....	134
	Vocabulary.....	138
	Reading Comprehension.....	140
	Grammar Spot.....	141
	Exercises.....	142
	Geological Wonders.....	143
	Profession – Young Hydrologist.....	144
	Geology Mystery Files.....	145
	Geology through Myths.....	148

• Unit 6 •

GEOPHYSICS, SEISMICITY AND PROSPECTING

Part 1	Seismic waves.....	152
	Vocabulary.....	155
	Reading Comprehension.....	157
Part 2	SEISMIC MONITORING.....	158
	Vocabulary.....	161
	Reading Comprehension.....	163
Part 3	REMOTE SENSING.....	164
	Vocabulary.....	167
	Reading Comprehension.....	168
	Grammar Spot.....	169
	Exercises.....	170
	Geological Wonders.....	171
	Profession – Young Geophysicist.....	172
	Geology Mystery Files.....	173
	Geology through Myths.....	176
	Reading comprehension questions.....	179
	Grammar – answer key.....	181
	Vocabulary.....	184
	Online references.....	200
	References.....	201

Foreword

English for geology students 2 textbook is a natural continuation of the textbook English for geology students 1. Realizing that some teachers may prefer to structure their courses differently, we have made it such a way that each chapter is independent, so that they could be taught even in a different order than the one offered in the book. Therefore, teachers can combine the previous textbook with this one, putting their own principles of clarity and coherence as a way in which they wish to teach the subject of English language and geology. Six thematic units:

- 1. Landslides**
- 2. Metamorphic rocks**
- 3. Mineral deposits**
- 4. Hydrological cycle and groundwater**
- 5. Surface water and glaciers**
- 6. Geophysics, seismology and prospecting**

treat geology as a non-linear subject, and, as we have already emphasized, although we have tried to make the topics interconnected, we believe that there is no single best way in which they can be taught and arranged.

Furthermore, we aimed to make the text and the space around it aesthetically pleasing from the very beginning, introducing decorative components wherever possible, as well as trying to configure the chapters in such a manner that students can easily spot and absorb key ideas and terms. However, we are aware that the presentation part is not enough for the textbook to succeed. It must, among other things, provide vitality in various ways, to motivate students to learn independently. Our attempt to beautify and practically systematize the vocabulary was aimed at the words being divided by color, blue being assigned to academic words, beige to geological words, and minerals being assigned the colour green. For those with a penchant for photography or possessing a photographic memory, this can facilitate learning, and provide overall motivation for the students to find an easier way towards acquisition. In other words, this approach to visualization allows for a facilitated connection-making between registers while at the same time referring to active learning within the given context. Teaching vocabulary, which is the base of language knowledge, can be continued by creating paper vocabulary cards, and later even electronic cards, which would ensure continuity in vocabulary learning by including modern educational technologies. As previously emphasized, the aim of teaching vocabulary is its active application and all the word lists offered will be brought to life only by their activation in many different ways and through consistent work.

I would like to use this opportunity, as with the first textbook, to express sincere and deep gratitude to all those who helped me to prepare for the work of writing the textbooks. Those are, first and foremost, all my colleagues from the Faculty of Mining and Geology who have provided

Foreword

me with valuable assistance, relevant literature and insights, and who have pointed out specific geological terms and translations of those terms in order for me to use them correctly.

My reviewers, prof. dr Juliana Vučo and prof. dr Dragoslava Mićović, demonstrated true faith in me and were extremely helpful with their patient reading of the material, along with their suggestions without which this textbook would not have been finalized.

I would like to thank dr Marija Đurić, professor at the Faculty of Medicine, for her professional help was valuable in providing me with elementary knowledge and an introduction into the field of forensics.

I owe special thanks to the comic artist Mijat Mijatović, whose masterful works brought the textbook to life.

I would also like to express my gratitude to Ana Stojanović, who was a valuable collaborator on a large number of tasks, processing and conceptual solutions. Without her, this textbook would not have its structure.

I had valuable help from my colleagues Marija Đorđević and Teodora Mihajlov, whom I am most thankful to.

I thank prof. Dragan Milovanović and Vladimir Pavlović for allowing me access to and use of their wonderful photographs.

Finally, it is my pleasure to thank Mr. Robin Fox who has, in his own manner, through originality, conscientiousness and kindness selflessly helped me in all segments of making the textbooks and to whom I owe a lot of knowledge about language, art and culture. I use this opportunity to extend a big and heartfelt “thank you” to him.



All three of the basic rock types – igneous, sedimentary and metamorphic – can be host to mineral ore deposits: accumulations of minerals with a sufficiently high concentration of the desired end product to make extraction and processing financially viable. This property is also described in terms of the mineral's grade. The various processes through which ores are formed – magmatic / igneous, hydrothermal, sedimentary, metamorphic – result in a range of ores which can serve different purposes: energy (fossil fuels, uranium), construction and industry (aggregates, clays for brick / tile, carbonates for cement), metals.

Igneous and magmatic deposits

As the contents of a magma chamber begin to cool, particularly in the case of basaltic magmas, which lose their heat very gradually, heavier minerals will generally crystallise out of the magma first, accumulating towards the bottom of the chamber. Such conditions can often produce deposits of apatite, magnetite and chromite; respectively the ores from which phosphorus, iron and chromium are derived.

As noted in the chapter on igneous rocks, minerals can be formed as a result of the intrusion of molten granite batholiths into surrounding rock, both through heat and by forcing very hot liquids with high mineral contents into the rock. The crystallisation that occurs with cooling results in cracks in the rock being filled with mineral veins or – when the veins are grouped together, mineral lodes. Lodes of metals such as copper, lead, zinc, iron, gold and mercury often form in this fashion.

Igneous processes are also responsible for the formation of diamonds, a mineral with generally very high financial viability. Crystallising under very high pressure at depths of almost 200km below the Earth's surface, this form of carbon is carried to the surface via kimberlite pipes – naturally occurring funnel-shaped formations of kimberlite, an ultramafic rock, in which diamond crystals are widely disseminated.



Vocabulary



VOCABULARY

Academic Flashcards

Geological Flashcards

Minerals Flashcards

abrade *verb [transitive]* the act of rubbing against the surface of something, thereby wearing it away;

synonyms: scrape, rub, erode

among *preposition* amid something or surrounded by something;

synonyms: amid, amidst

astounding *adjective* used to describe something amazing or hard to believe;

synonyms: amazing, jolting, jaw-dropping;

antonyms: mundane, ordinary, usual

astonishingly *adverb* in a rather surprising manner;

synonyms: amazingly, surprisingly, unexpectedly; *antonyms:* expectedly, unsurprisingly

channel *noun* a passage along which surface water and groundwater flows

detrital load *noun* load that is formed of rocks, minerals, and sediments

divide *noun* a narrow tract of high ground that separates two drainage basins or surface waters flowing in opposite directions;

synonyms: watershed, drainage basin, drainage system

fluctuation *noun* a frequent change of a certain quality from one state to another

glaciation *noun* used to refer to the geological processes of a glacier, i.e. its formation, movement, and recession

interchangeably *adverb* in a way that something can be replaced without making a difference

never-ending *adverb / adjective* used to describe something that seems to go on forever;

synonyms: endless, continuous, eternal; *antonyms:* brief, intermittent, ephemeral

stream *noun* a body of running water that moves through a relatively narrow channel



Waterfall, Iceland