

TABLE OF CONTENT

1. INTRODUCTION	7
2. EXPLORATION AREAS: DIVISION, DELIMITATION, AND LEGISLATIVE FRAMEWORK	9
2.1 Mineral exploration	10
2.2 Exploration area for a special encroachment on the Earth's crust	18
3. THE GEOLOGY OF OIL AND GAS.....	20
3.1 Formation of petroleum and gas reservoirs	20
3.2 Hydrocarbon exploration	22
3.3 Drilling and potential extraction.....	24
3.4 What happens when hydrocarbon extraction is over.....	27
3.5 Possible risks and negative impacts.....	27
4. THE GEOLOGY OF THE NUCLEAR FUEL CYCLE	29
4.1 The front end: prospects and exploration of uranium deposits.....	29
4.1.1 Uranium in the Czech Republic.....	35
4.1.2 Mining uranium.....	36
4.2 The rear end: radioactive waste and geological repository ..	40
4.2.1 Radioactive Waste: Origin and Types	40
4.2.2 Repository.....	42
4.2.2.1 Exploration: methods, phases, and establishing whether a location is suitable for a deep geological repository.....	45

4.2.2.1.1 Exploration: First Phase.....	46
4.2.2.1.1.1 Geological Mapping	47
4.2.2.1.1.2 Structural Geology	47
4.2.2.1.1.3 Surface Geophysics	49
4.2.2.1.1.4 Areal Geochemistry	49
4.2.2.1.1.5 Surface Hydrogeology and Hydrochemistry... .	50
4.2.2.1.2 Exploration: Second Phase	52
4.2.2.1.2.1 Core Sample Analysis	53
4.2.2.1.2.2 Borehole Tests.	53
4.2.2.1.3 Long-term seismic monitoring of sites pre-selected for a deep geological repository	55
4.2.2.1.3.1 Earthquake strength.....	60
4.2.2.1.3.2 Seismic hazard.	61
4.2.2.1.4 Glossary	62
5. LOCAL ACCEPTANCE AND OPPOSITION	65
5.1 Introduction	65
5.2 Theory.....	66
5.2.1 The NIMBY approaches	69
5.2.2 The Post-NIMBY approaches.....	74
5.2.3 Three ideological distinctions of local opposition.....	77
5.2.3.1 Rationality.....	78
5.2.3.2 Justice	81
5.2.3.3 Governance	83
5.3 Methodology.....	86
5.3.1 Selected methods for the study of local oppositions	87
5.3.1.1 Network analysis	87
5.3.1.2 Frame analysis.....	88
5.3.1.3 Agent-based modelling	90
5.3.2 Methodological practice	94
5.3.2.1 Frame analysis	94

5.3.2.1.1 Preliminary phase	94
5.3.2.1.2 Research tools and data collection	94
5.3.2.1.3 Data processing	95
5.3.2.1.4 Data evaluation	100
5.3.2.2 Network analysis	101
5.3.2.2.1 Preliminary phase	101
5.3.2.2.2 Research tools and data collection	101
5.3.2.2.3 Data evaluation	102
5.3.2.3 Agent-based modelling	106
5.3.2.3.1 Formulating the research question	106
5.3.2.3.2 Formulating partial hypotheses	106
5.3.2.3.3 Model proposal and implementation	107
5.3.2.3.4 Testing and revising the model	108
6. CONCLUSIONS.....	109
7. LITERATURE	111
8. ABSTRACT.....	116
9. NOMINAL INDEX.....	118