

CONTENT

CHAPTER 1:	INTRODUCTION	
.....	1
1.1. Structure of the thesis		1
1.2. Motivation.....		1
1.3. Objective and research questions.....		3
1.3.1. Hypothesis		3
CHAPTER 2: GEOCHEMISTRY OF TRAVERTINE AND ITS IMPLICATIONS ON GEOHERMAL SYSTEMS UNDERSTANDING: A CASE STUDY AT CAJÓN DEL MAIPO, CENTRAL ANDES, CHILE.....		4
ABSTRACT		4
2.1. INTRODUCTION		5
2.2. GEOLOGICAL SETTING		6
2.2.1. Regional and structural geology.....		6
2.2.2. Hydrogeological setting.....		1
2.3. METHODOLOGY		1
2.3.1. Field work and sampling description.....		1
2.3.2. Travertine analysis.....		2
2.3.3. Water analysis.....		3
2.3.4. Microbial community analysis		4
2.4. RESULTS		4
2.4.1. Travertine deposits		4
2.4.2. Hydrochemistry		3
2.4.3. Microbial analyses.....		10
2.5. Discussion.....		10
2.5.1. Deposits morphologies		10

2.5.2. Mineralogy	13
2.5.3. Travertine isotopic values.....	14
2.5.4. Thermal water isotopic signatures	18
2.5.5. Conceptual model of the geothermal systems and travertine precipitation.....	19
2.6. Conclusion	20
Acknowledgments	21
CHAPTER 3: CONCLUDING REMARKS	22
3.1. Recommendations for future research	22
BIBLIOGRAPHY	23
APPENDIX: TRAVERTINE COMPOSITION.....	33