

# Using periodic simulations to improve compressed air system efficiency

Brandon Friedenstien

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## Abstract

# List of symbols

# Acronyms

# Glossary

# Chapter 1

## Introduction and background

- 1.1 Preamble
- 1.2 Compressed air systems in the mining industry
- 1.3 Characteristic inefficiencies within compressed air systems
- 1.4 Inefficiency identification methods in industry
- 1.5 Problem statement
- 1.6 Dissertation overview



# Chapter 2

## Literature study

2.1 Preamble

2.2 Identification of inefficiencies in compressed air systems

2.3 The use of simulation in industry

2.4 Compressed air operational improvements in industry

2.5 Conclusion

# Chapter 3

## Developing a periodic simulation process

- 3.1 Compressed air system investigation
- 3.2 Simulation model development
- 3.3 Model verification
- 3.4 Periodic implementation
- 3.5 Analysis of data
- 3.6 Identifying and quantifying operational improvements
- 3.7 conclusion

# Chapter 4

## Validation of Results

4.1 Preamble

4.2 Case study: Mine A

4.3 Case study: Mine B

4.4 Discussion of results

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# Chapter 5

## Conclusion

### 5.1 Conclusion

### 5.2 Recommendations for future studies