

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY
BELGAUM -590018**



A PROJECT REPORT ON

“APPLICATION POTENTIAL OF H-JET FOR ROCK DRILLING”

Submitted in partial fulfillment of requirements for the award of the degree

MASTER OF TECHNOLOGY

IN

COMPUTER INTEGRATED MANUFACTURING

Submitted by

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ABSTRACT

Abundant geothermal resources throughout the nation can provide an environment friendly source of energy. In the geothermal industry, oil industry or to drill rock drilling is critical component. Drilling is probably one of the most expensive features of geothermal industry with increasing depth drilling process become difficult and uneconomic. The high costs of drilling bit add to the cost of drilling.

The major thrust of this project is to adapt a flame jet burner assembly to operated the first practical deep hole drill or cavity formation. The process starts by applying a high-intensity jet flame to rock surface to expand the crystalline grain within the rock.

H-JET DRILL works by using hydrogen heated to 1700 degrees centigrade and drill through rock. Use of the hydrogen gas to generate the high velocity jet flame to drill a hole or to produces a cavity formation system for the rapid drilling in rock. The drilling medium is a jet; therefore, there is no physical contact between moving parts.

Keywords: Drilling, H-JET, Hydrogen, Air, Flame jet burner, Rock.