

**KING FAHD UNIVERSITY OF PETROLEUM & MINERALS
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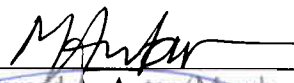
DEANSHIP OF GRADUATE STUDIES

This thesis, written by Dhawi AbdulRahman Al-Otaibi under the direction of his thesis advisor, and approved by his thesis committee, has been presented to and accepted by the Dean of Graduate Studies, in partial fulfillment of the requirements for the degree of **MASTER OF SCIENCE IN MECHANICAL ENGINEERING**

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