

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER HDL-TM-79-21	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) A Fluidic Approach to the Design of a Mud Pulser for Bore-Hole Telemetry While Drilling		5. TYPE OF REPORT & PERIOD COVERED Technical Memorandum
		6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) Allen B. Holmes Stacy E. Gehman		8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS Harry Diamond Laboratories 2800 Powder Mill Road Adelphi, MD 20783		10. PROGRAM ELEMENT PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS Department of the Interior U.S. Geological Survey Washington, DC 20242		12. REPORT DATE August 1979
		13. NUMBER OF PAGES 37
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)		15. SECURITY CLASS. (of this report) UNCLASSIFIED
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited.		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES DRCMS Code: 7-36AA-7100 HDL Project: A54735 This research is sponsored by the U.S. Geological Survey, Research and Development Program for OCS Oil and Gas Operations, under Technology Transfer Authorization.		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Fluidics Mud pulser Down-hole telemetry Measurement while drilling		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Mud-pulse telemetry is a method for communicating diagnostic information from the bottom of a well to the surface while the well is being drilled. Because mud-pulse telemetry offers poten- tial for improving the safety of hazardous offshore drilling oper- ations, the U.S. Geological Survey has sponsored a research program at the Harry Diamond Laboratories (HDL) to investigate the		

DD FORM 1 JAN 73 1473

EDITION OF 1 NOV 65 IS OBSOLETE

UNCLASSIFIED

1 SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)