

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER HDL-TR-2058	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) The Fluidic Approach to Mud Pulsar Valve Design for Measurement-While-Drilling Applications		5. TYPE OF REPORT & PERIOD COVERED Technical Report
		6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) Allen B. Holmes		8. CONTRACT OR GRANT NUMBER(s) PRON: WD3-174 OWDA9
9. PERFORMING ORGANIZATION NAME AND ADDRESS Harry Diamond Laboratories 2800 Powder Mill Road Adephi, MD 20783-1197		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS Program Ele: M
11. CONTROLLING OFFICE NAME AND ADDRESS Department of Interior Minerals Management Service Reston, VA 22091		12. REPORT DATE November 1985
		13. NUMBER OF PAGES 53
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. This work was sponsored by the Department of Interior, Minerals Management Service, Reston, VA 22091.		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES HDL Project: 315334 MIPR: 3-6035-25213		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Measurement while drilling MWD Pulsar Mud pulsar		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) The design and operation are described for three fluidic-type mud pulsing valves. In principle, these valves employ centrifugal pressure forces in a confined vortex flow field to throttle the fluid (mud), which circulates through a drill pipe. Valves of this type can be used for transmitting diagnostic information in the form of binary coded pressure pulses. The pulses travel through the drilling mud between the drill bit and the surface while the well is being drilled.		

DD FORM 1473 1 JAN 73 EDITION OF 1 NOV 65 IS OBSOLETE

UNCLASSIFIED

1 SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)