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THE USE OF SHAPED CHARGES FOR  
EPW PERFORMANCE ENHANCEMENT (U)



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DEPARTMENT OF ENERGY DECLASSIFICATION REVIEW	
1ST REVIEW DATE: 4/21/05	1. DETERMINATION (CIRCLE NUMBER(S))
AUTHORITY: EACG EADG 5/03	0 CLASSIFICATION RETAINED
NAME: Nancy Cornwell	1 CLASSIFICATION CHANGED TO:
2ND REVIEW DATE: 5/19/07	2. CHANGES TO DOE CLASSIFIED INFO
AUTHORITY: 17009	3. COORDINATE WITH:
NAME: R. K. Thomas	0 CLASSIFICATION CANCELLED
	4. CLASSIFIED INFO BRACKETED
	5. OTHER (SPECIFY): <del>1. DoD concern</del>

*by DOE brackets per  
Apr. dtd. 2/1/05 and  
also add above.*

RKT:5165:3/24/88

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Dissemination Section 1.4.b., Atomic Energy Act, 1954.  
Classified by S. P. Meyer, No. 616  
The Supervisor, Penetrator Weapon Development Division, 3/24/88

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Shaped Charge/Earth Penetrator Concept

Sandia National Laboratories are investigating the use of shaped charges to enhance the performance of earth penetrating weapons. The present application is toward Phase II studies of the Strategic Earth Penetrator Weapon (SEPW). Although some calculations for the B61 Interim Solution Candidate will be shown.

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**SHAPED CHARGE / EARTH  
PENETRATOR CONCEPT**

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# SHAPED CHARGE CONFIGURATIONS FOR EARTH PENETRATOR PROGRAM

MANNY VIGIL, 2512  
97TCA2000.06



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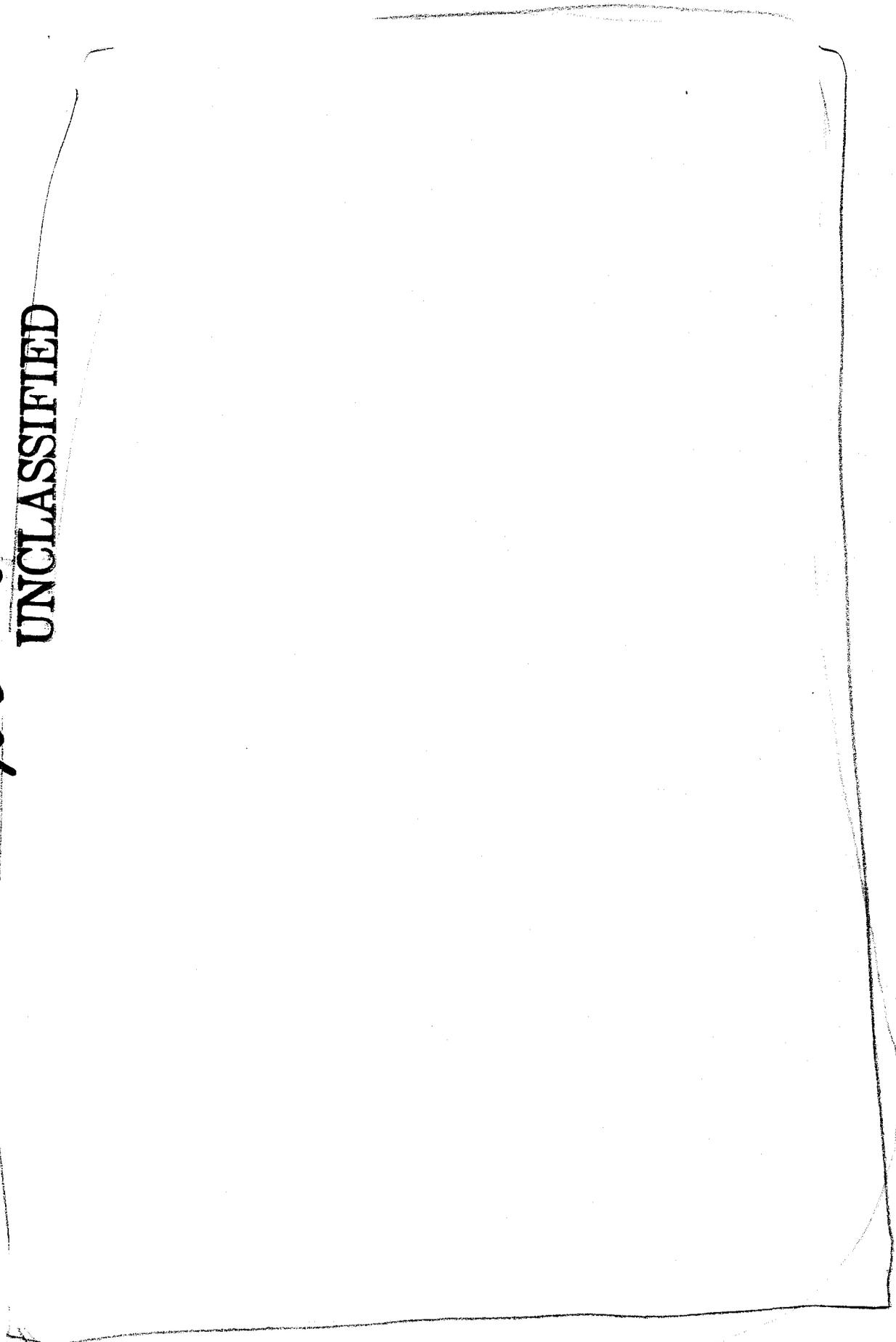
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Hydracode simulation of a 42° conical shaped charge, initial liner configuration, and jet slug formation at 40 and 60  $\mu$ s

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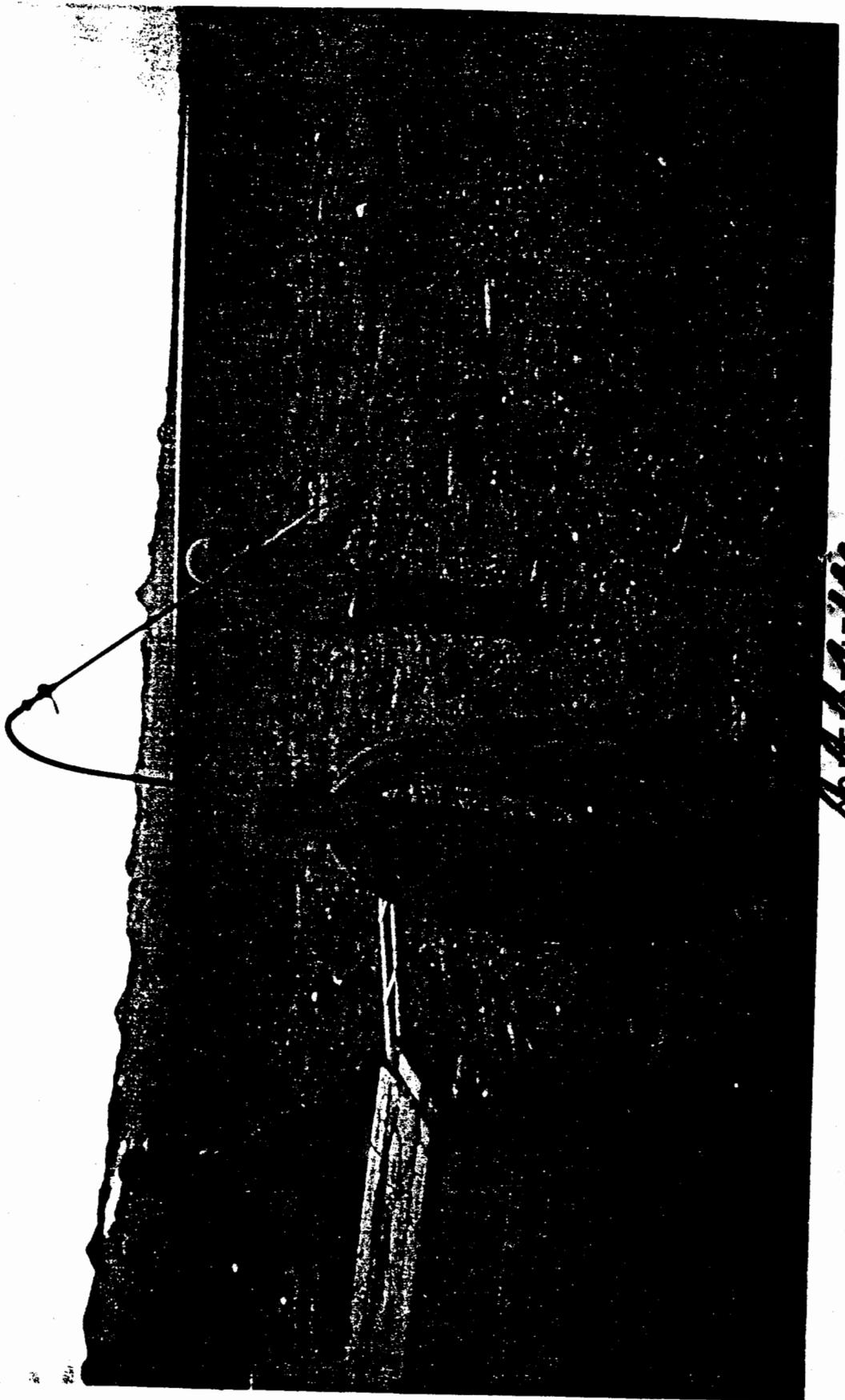
Hole Cleaning for TTR Tests

After each test, the hole was cleaned by blowing out the rock fragments with compressed air. The hole profile in hard rock such as welded tuff is not altered by compressed air. Then the hole dimensions were recorded.

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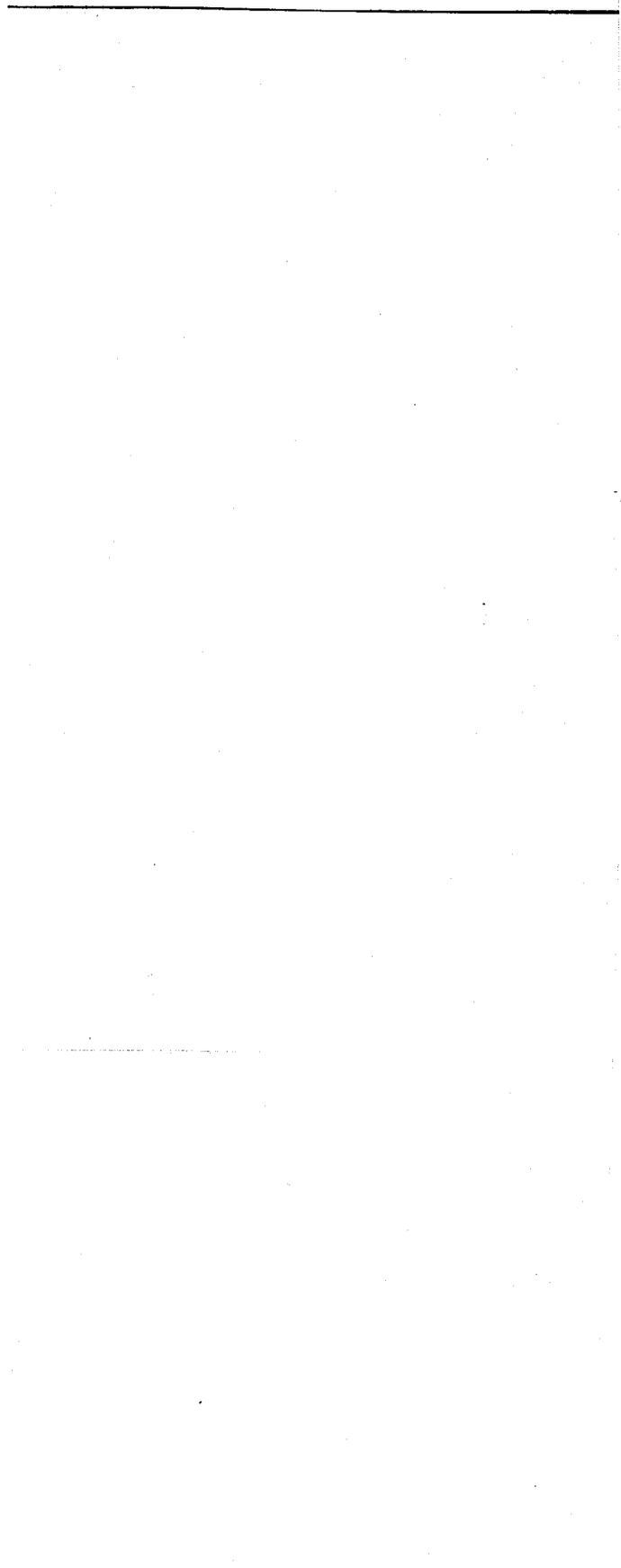
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SHAPED CHARGE/TUFF PENETRATION TESTS AT TONOPAH

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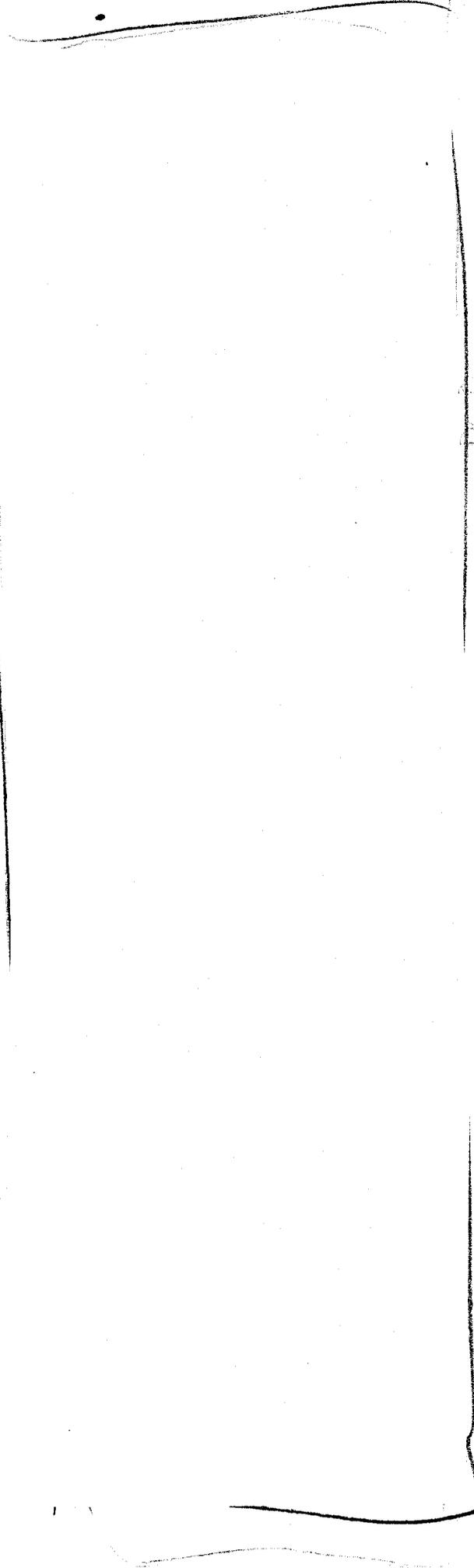
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THEORETICAL VERSUS EXPERIMENTAL  
CONICAL SHAPED CHARGE PENETRATIONS IN TUFF



\*UNABLE TO CLEAN HOLE OUT WITH AIR COMPRESSOR

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*HR*

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Proposed for Publication in Proceedings of AIAA/Orso Workshop on Future Systems & Barishite Missile Technology. (Name of Journal)

Proposed for Presentation at \_\_\_\_\_ (Name of meeting, conference, or symposium)

Date of Meeting 3/22-25/88 Location Norton AFB, San Bernardino, CA Sponsoring Org. 5165

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Title U Abstract \_\_\_\_\_ Manuscript CFRD Authorized Classifier A. D. Meyer

(Check when applicable)  NWD  Sigma \_\_\_\_\_  CNWDI Org. 5165 Date 3/29/88

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**6. CLASSIFICATION REVIEW 3180 (8265)**

concur CFRD-

Signature/Initials [Signature] Date 4/8/88

**7. PATENT/LEGAL REVIEW 4031**

Patent Interest:  no  yes

Signature/Initials D. C. Grawing Date 4/8/88

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