

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate of any other aspect of this collection of information, including suggestions for reducing this burden to Washington Headquarters Service, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.
PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.

1. REPORT DATE (DD-MM-YYYY) 10/22/2003		2. REPORT TYPE Final Report		3. DATES COVERED (From - To) 04/15/2003 - 09/30/2003	
4. TITLE AND SUBTITLE Geoclutter Target Moorgins			5a. CONTRACT NUMBERS		
			5b. GRANT NUMBER N00014-03-1-0711		
			5c. PROGRAM ELEMENT NUMBER		
6. AUTHOR(S) Donald B. Peters			5d. PROJECT NUMBER		
			5e. TASK NUMBER		
			5f. WORK UNIT NUMBER		
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Woods Hole Oceanographic Institution Applied Ocean Physics and Engineering Department 86 Water Street, MS #19 Woods Hole, Massachusetts				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSORING/MONITORING ACRONYM(S)	
				11. SPONSORING/MONITORING AGENCY REPORT NUMBER	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution is unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT An air-filled aluminum tube array was designed and constructed to function as an acoustic target for the Geoclutter field experiment. This horizontal array consisted of four 6-inch schedule 10 aluminum pipes 20 feet (6m) long attached to a depressor weight constructed of steel bar. The array was designed to be directionally oriented from the deployment vessel by dragging from the attached deployment/recovery mooring pennant.					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE			
Unclassified	Unclassified	Unclassified	Unlimited	5	Donald B Peters
					19 b. TELEPHONE NUMBER (Include are code) (508) 289-3377

Final Technical Report

Geoclutter Target Moorings
Grant/Contract No.: N00014-03-1-0711
Period of Award: 15 April 2003 – 30 September 2003

The Geoclutter target was designed to meet the following specification:

- Length 6m
- 4 Air-filled aluminum 6-inch schedule
- 10 pipes in a square bundle
- Sufficient weight to result in approximately 500 lb wet weight
- Ability to orient directionally by dragging
- Attachment point for deployment/recovery mooring penant
- Tagline bales at ends for handling

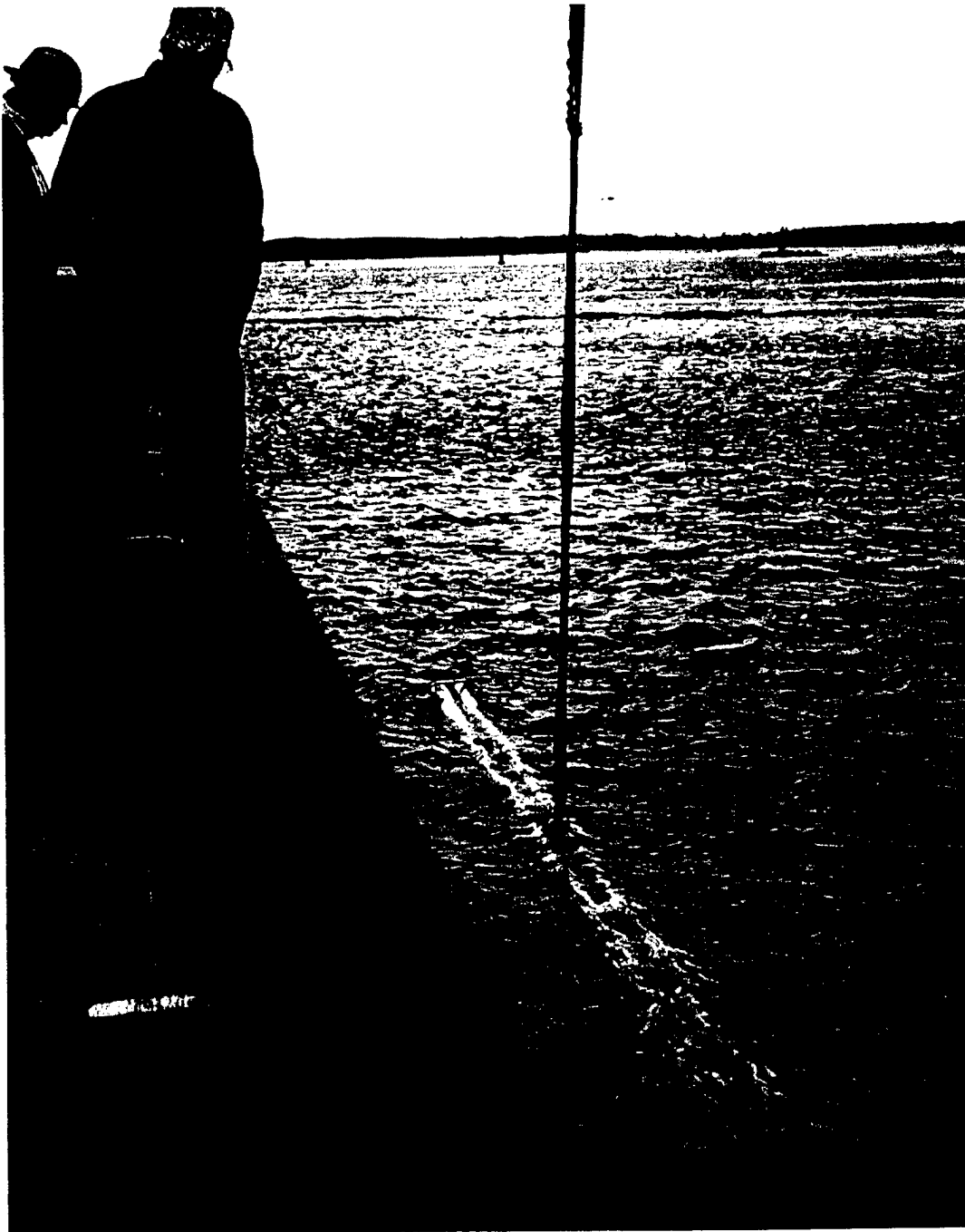
Attached are an overall dimensioned drawing and two photos of dock testing the target. The target was used successfully in the Geoclutter field experiment for Nick Makris of MIT.

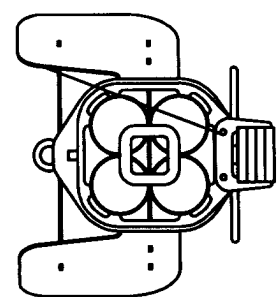
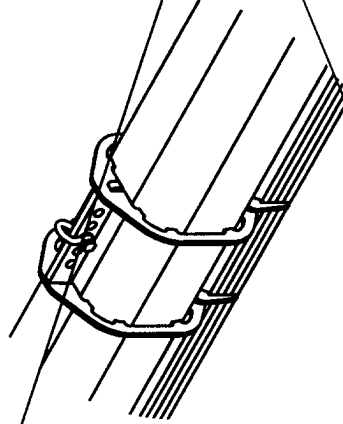
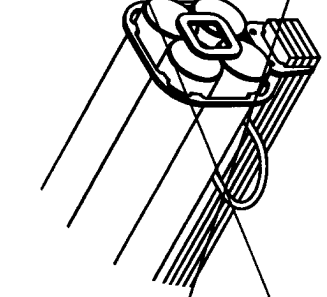
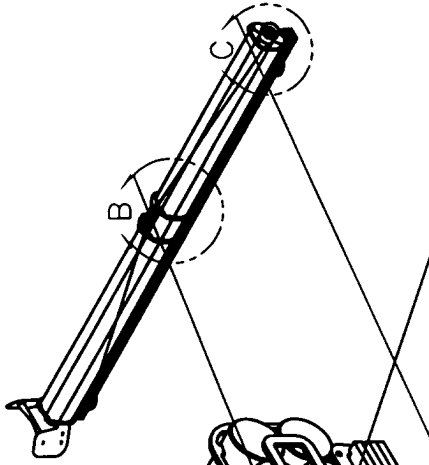
20031103 124

Final Technical Report

Geoclutter Target Moorings
Grant/Contract No.: N00014-03-1-0711
Period of Award: 15 April 2003 – 30 September 2003



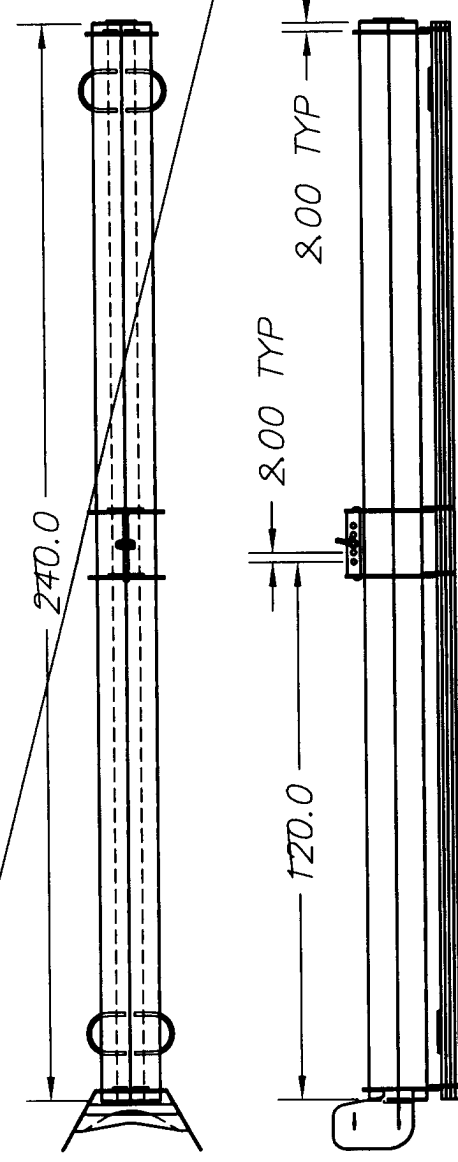




DETAIL C
SCALE 1:20

DETAIL B
SCALE 1:20

DETAIL A
SCALE 1:20



2.00 TYP

2.00 TYP

120.0

240.0

PICK-ANGLE VS. HET-OFFSET

WEIGHT = 1926
 BUOYANCY = 1453
 WET WEIGHT = 473

nw = 18.62
 nb = 10.89

Pick Offset	Pick Angle	Subm Angle
2.00	6	3
4.00	12	5
6.00	18	8
8.00	23	11

UNLESS OTHERWISE SPECIFIED
 DIMENSIONS ARE IN INCHES
 DECIMALS IN ANGULAR
 DIMENSIONS AT
 DO NOT SCALE DRAWING

MATERIAL
 AS NOTED

FINISH
 AS NOTED

PROJECT NO.

DESIGNER
 DON PETERS

DATE
 04/27/73

CHECK

APPROVED BY

WOODS-BATES OCEANOGRAPHIC INSTITUTION
 APPLIED OCEAN PHYSICS & ENGINEERING
 WOODS HOLE, MASSACHUSETTS 02543

TITLE
 GEOLUTTER TARGET
 ASSEMBLY

SIZE
 105-0-0000

SCALE
 RELEASE DATE

SHEET
 OF