	X ORIGINAL REVISION NO.
E-25-648	GTRI/087 DATE 10/2/84
Project Director: Ward Winer	School/200X ME
Sponsor: Dept. of the Navy Office of Naval	Research
800 North Quincy Street Arling	
Type Agreement: Grant No. N00014-84-G-0145	
Award Period: From 9/1/84 To 8/31/85	(Performance) <u>10/31/85</u> (Reports)
Sponsor Amount: This Change	Total to Date
Estimated: \$ 84,000	
Funded: \$84,000	\$ \$
Cost Sharing Amount: \$ N/A	Cost Sharing No:
Title: High Temperature Thermal Phenomena	in Tribology
ADMINISTRATIVE DATA OCA Conta	ct Dennis Farmer x4820
1) Sponsor Technical Contact:	2) Sponsor Admin/Contractual Matters:
- Head Mechanics Division	Tom Bryant
Office of Naval Research	Office of Naval Research
800 North Quincy Street	Resident Representative
Arlington, VA 22217	206 O'Keefe Building
	Georgia Institute of Technology
	Atlanta, GA 30332 (404) 881-4374
Defense Priority Rating:	Military Security Classification:
	or) Company/Industrial Proprietary:
RESTRICTIONS See Attached Gov't Supplemental Info	
	ormation Sheet for Additional Requirements.
Travel: Foreign travel must have prior approval - Contact (CA in each case. Domestic travel requires sponsor,
approval where total will exceed greater of \$500 or	125% of approved proposal budget category.
Equipment: Title vests with <u>GTRC</u>	
COMMENTS:	354525653
	filled through the use of the following
Cost Participation Requirements are full	anning electron microscope, Digital stora
Cost Participation Requirements are full items purchased from non-DoD funds: Sca	
items purchased from non-DoD funds: Sca	
items purchased from non-DoD funds: Sca scope, Honeywell instrumentation tape re	ecording system, and a micro-computer sys
items purchased from non-DoD funds: Sca scope, Honeywell instrumentation tape re	ecording system, and a micro-computer sys the use of three tribo-testers constructe
items purchased from non-DoD funds: Sca scope, Honeywell instrumentation tape re Also included in cost participation is t on various contracts including NASA, DoI COPIES TO:	ecording system, and a micro-computer sys the use of three tribo-testers constructe D, and Industry. Sponsor ID #02.104.001.84.011
items purchased from non-DoD funds: Sca scope, Honeywell instrumentation tape re Also included in cost participation is t on various contracts including NASA, DoI COPIES TO: Project Director Procurement	ecording system, and a micro-computer sys the use of three tribo-testers constructe D, and Industry.

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GEORGIA INSTITUTE OF TECHNOLOGY	OFFICE OF CONTRACT ADMINISTRATION
SPONSORED PROJECT TEI	RMINATION/CLOSEOUT SHEET
	Date 5/22/86
Project No	School/Late ME
Includes Subproject No.(s) N/A	
Project Director(s) Ward Winer	GTRC / XON
Sponsor Department of the Navy Office of Nav	val Research 800 N. Quincy St. Arlington, VA 22217
Title High Temperature Thermal Pher	nomena in Tribology
Effective Completion Date: 8/31/85	(Performance) 10/31/85 (Reports)
Grant/Contract Closeout Actions Remaining:	·
None	
Tinal Invoice or Final Fiscal Repor	t
Closing Documents	
Final Report of Inventions Pater	nt Questionaire sent to P.I.
X Govt. Property Inventory & Related	
Classified Material Certificate	
Other	
Continues Project No	Continued by Project No.
COPIES TO:	
Project Director Research Administrative Network	Library GTR C
Research Property Management	Research Communications (2)
Accounting Procurement/EES Supply Services	Project File
Research Security Services	Other Jones, Embry
Reports Coordinator (OCA) Legal Services	
Form OCA 60:1028	

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FINAL REPORT

DOD-URIP

Grant No. N00014-84-G-0145

Project Director: Ward O. Winer

Date: May 12, 1986

I. Items Acquired

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The following is a list of equipment purchased on this grant including manufacturer and cost. Following the list is an explanation of changes from the original proposal.

- a. Digital Image Processor Model DS-50 with A/D kit, 12 bit memory and IEEE interface card. Quantex Corporation \$17,000.00
- b. Personal Computer Model 5150176, with expanded memory, Math co-processor, color monitor IBM Corporation and Quadram \$3,107.40
- c. Digital Plotter, 11 x 17 inch, four color, 16K buffer, IEEE 488 interface, and 100 x time base adjustment Gould, Inc. \$2,320.00
- d. Fiberoptics Position Sensor Fotonic Sensor Model KD-45 with KD-P-032R Probe, and KD-CXX Cartridge MTI Corporation \$2,425.00
- e. Surface Profilometer, stylus type with control unit, vibration isolation table and LV 50 traversing unit, and TKE 100 skid pickup Valmet Incorporated \$47,835.00
- f. Accessories for surface profilometer (item c above), including FHZ holder for skidless pickup Skidless pickup TKL-100 Rotary Drive Unit RV150S Valmet Incorporated \$9,825.00

II. Changes from Proposal

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> The proposal as modified in a letter of June 8, 1984 to Dr. W. A. Ruff, ONR covered two areas of expenditure. One was for components to accompany an infrared scanning system (\$37,300) of which the basic scanner was purchased on a grant from the NSF and the second was for a surface profilometer system (\$46,700). Shortly after this grant was received \$10,000 was made available from other sources to purchase components for the infrared system. This permitted additional components to be purchased on this grant for the surface profilometer system. Items a-d above relate to the infrared system and items e & f relate to the surface profilometer system.

III. Use of the Equipment

The equipment purchased on this grant is being utilized in both DOD and non-DOD funded research. The equipment was a major contributing factor in permitting us to undertake a program studying the fundamentals of high temperature solid lubrication of ceramics for DARPA as a subcontractor to Hughes Aircraft.

The equipment is also being used on a DOE-ECUT program to study the thermal aspects of wear of ceramics. This program is intended to develop basic information that will be useful in the development of the minimum cooled diesel engine which is also of interest to DOD. Finally, the equipment is also used on a basic studies program into surface temperature in tribological systems under a grant for the NSF.