NRC FORM 195 (2-76)

U.S. NUCLEAR REGULATORY COMMISSION

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DESCRIPTION

LTR RE THEIR SUBMITTAL OF 12/9/76 TRANS THE FOLLOWING.....

PLANT NAME: TURKEY PT # 3 & 4

ENCLOSURE

SUPPLEMENTAL INFORMATION PERTAINING TO THE ECCS REEVALUATION.....

(1 CARBON SIGNED CY. RECEIVED)
(15 PAGES)

SAFETY — FOR ACTION/INFORMATION — ENVIRO — SAB 1/11/77

	ASSIGNED AD:			ASSIGNED AD:	
✓	BRANCH CHIEF:	LEAR (6)		BRANCH CHIEF:	
✓	PROJECT MANAGER:	ELLIOTT		PROJECT MANAGER:	
✓	LIC. ASST.:	PARRISH		LIC. ASST.:	

INTERNAL DISTRIBUTION

✓	REG FILE		SYSTEMS SAFETY		PLANT SYSTEMS		SITE SAFETY &
✓	NRC PDR		HEINEMAN	✓	TEDESCO		ENVIRO ANALYSIS
✓	I & E (2)		SCHROEDER		BENAROYA		DENTON & MULLER
✓	OELD			✓	LAINAS		
✓	GOSSICK & STAFF		ENGINEERING		IPPOLITO		ENVIRO TECH.
	MIPC		MACARRY		KIRKWOOD		ERNST
✓	CASE		KNIGHT				BALLARD
	HANAUER		SIHWEIL		OPERATING REACTORS		SPANGLER
	HARLESS		PAWLICKI		STELLO		
							SITE TECH.
	PROJECT MANAGEMENT		REACTOR SAFETY		OPERATING TECH.		GAMMILL
✓	BOYD	✓	ROSS	✓	EISENHUT		STEPP
	P. COLLINS	✓	NOVAK (3)		SHAO		HULMAN
	HOUSTON	✓	ROSZTOCZY	✓	BAER		
	PETERSON		CHECK		BUTLER		SITE ANALYSIS
	MELTZ				GRIMES		VOLLMER
	HELTEMES		AT & I				BUNCH
	SKOVHOLT		SALTZMAN				J. COLLINS
✓	DEYOUNG		RUTBERG				KREGER

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✓	ACRS 16 CYS ~~HOLDING~~ SENT			

CONTROL NUMBER

7 ECCS
25. 1

CATEGORY B DOCUMENT
F/INFO ACRS

Regulatory

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P. O. BOX 013100, MIAMI, FL 33101

FPL
FLORIDA POWER & LIGHT COMPANY

December 30, 1976
L-76-439

Office of Nuclear Reactor Regulation
Attn: Victor Stello, Jr., Director
Division of Operating Reactors
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Stello:

Re: Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
ECCS Reevaluation
Supplemental Information

The ECCS Reevaluation performed for Turkey Point Units 3 and 4 was submitted by Florida Power & Light Company on December 9, 1976, (L-76-419).

Attached herewith is supplemental information related to the reevaluation which was requested by your staff.

Very truly yours,

E. L. Edomat

for Robert E. Uhrig
Vice President

REU/GDW/hlc
Attachment

cc: Norman C. Moseley, Region II
Robert Lowenstein, Esq.

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QUESTION

Justify the statement, made in the L-76-419 letter of December 9, 1976, that Cycle 3 is more limiting than Cycle 4 in terms of the parameters used in determining the ECCS performance.

ANSWER

The following response addresses Turkey Point Unit 3. The Unit 4 response will be included in the Unit 4 Cycle 4 RSE which will be submitted at a future date.

The ECCS analysis was performed for Cycle 3, Region 3. Region 3 fuel, which has the lowest theoretical density (92.0%) has the largest stored energy of any fuel region in the core, and therefore results in the highest calculated peak clad temperature for the ECCS analysis. Unit 3, Cycle 4 will not contain any Region 3 fuel, and the new fuel added (Region 6) has a higher theoretical density (94.5%) and lower stored energy than Region 3 fuel. Therefore Cycle 3 is more limiting than Cycle 4 with respect to ECCS performance.

QUESTION - Show which of the curves in Figures 1a through 8d correspond to hot spot location and which to clad burst location (most of the curves are unlabeled).

ANSWER - Figures 1a through 4d and 7a through 8d have been labeled so that comparison with Table 2 will show which curves correspond to hot spot location and which to clad burst location. The labeled curves are attached.

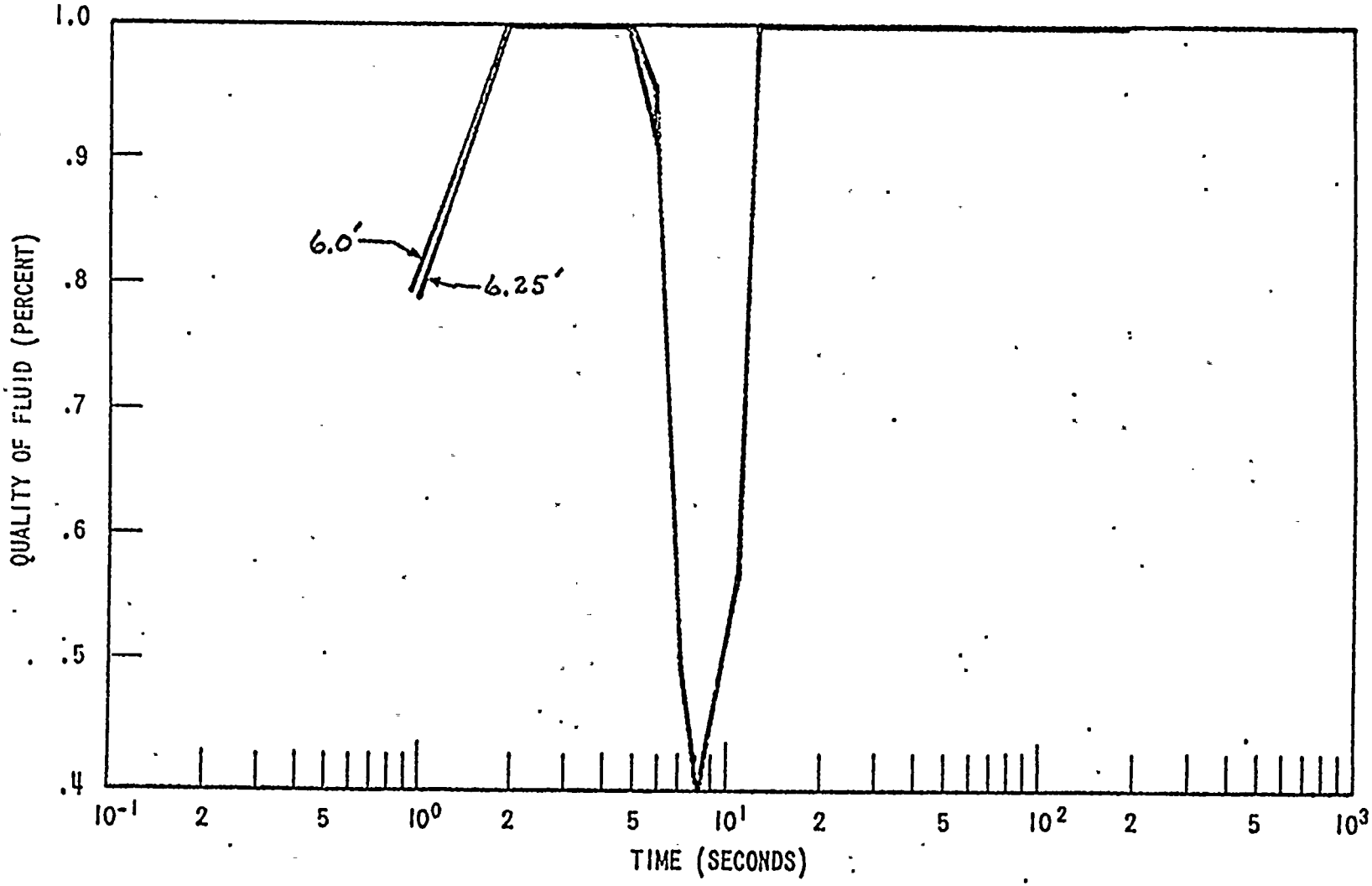

Figure 1a. Fluid Quality – DECLG (C_D = 1.0)

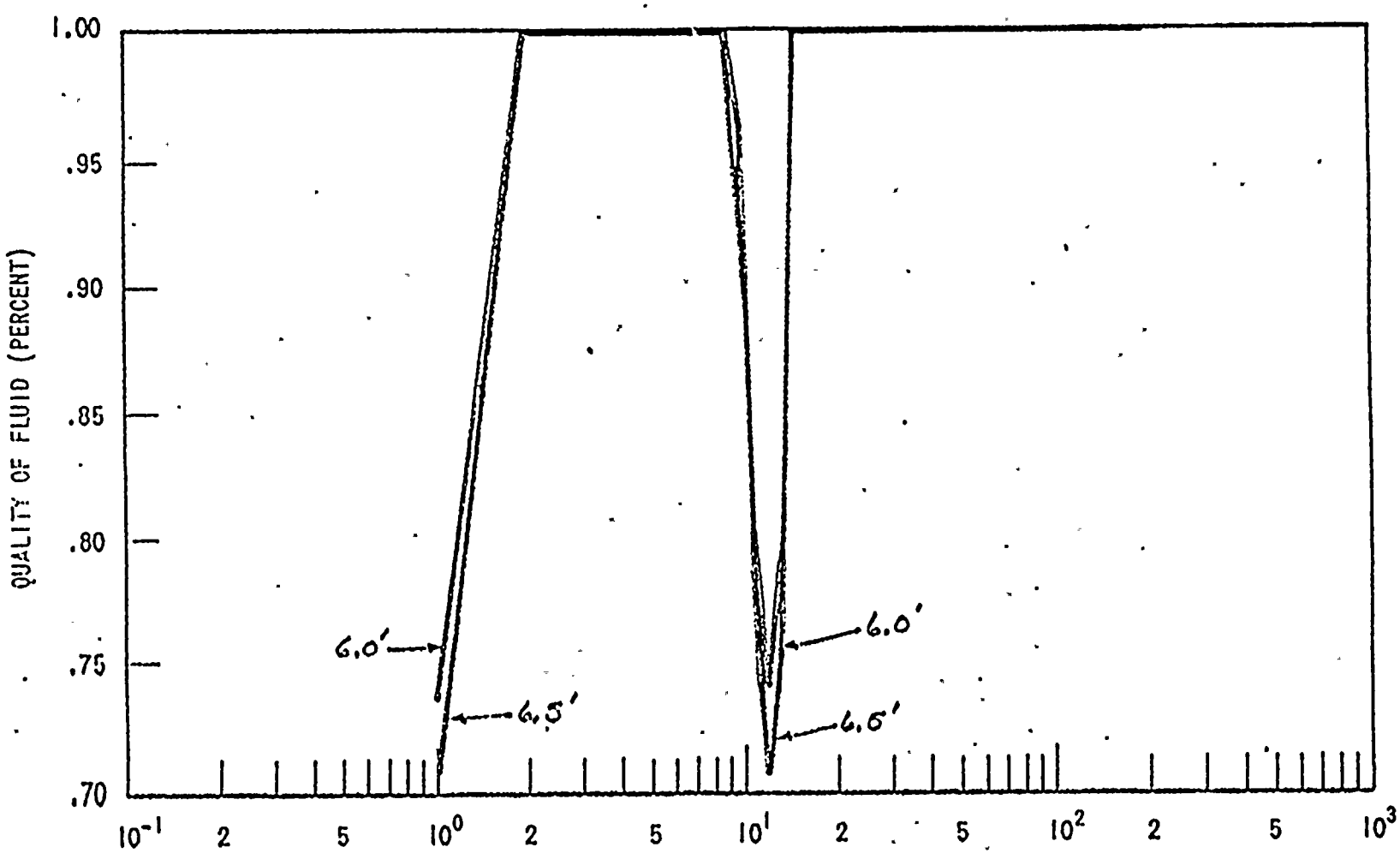

Figure 1b. Fluid Quality – DECLG (C_D = 0.6)

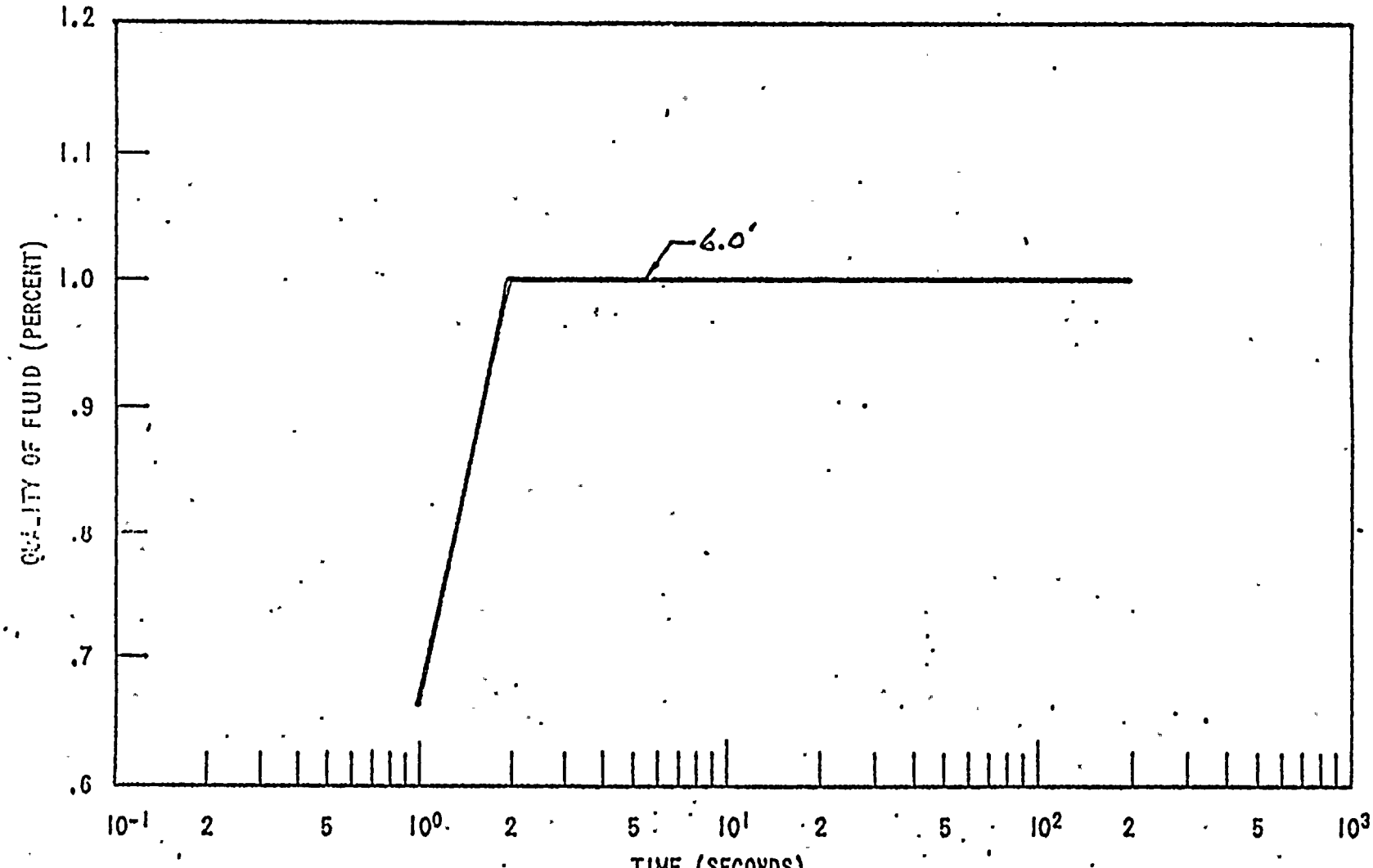

Figure 1c. Fluid Quality – DECLG (C_D = 0.4)

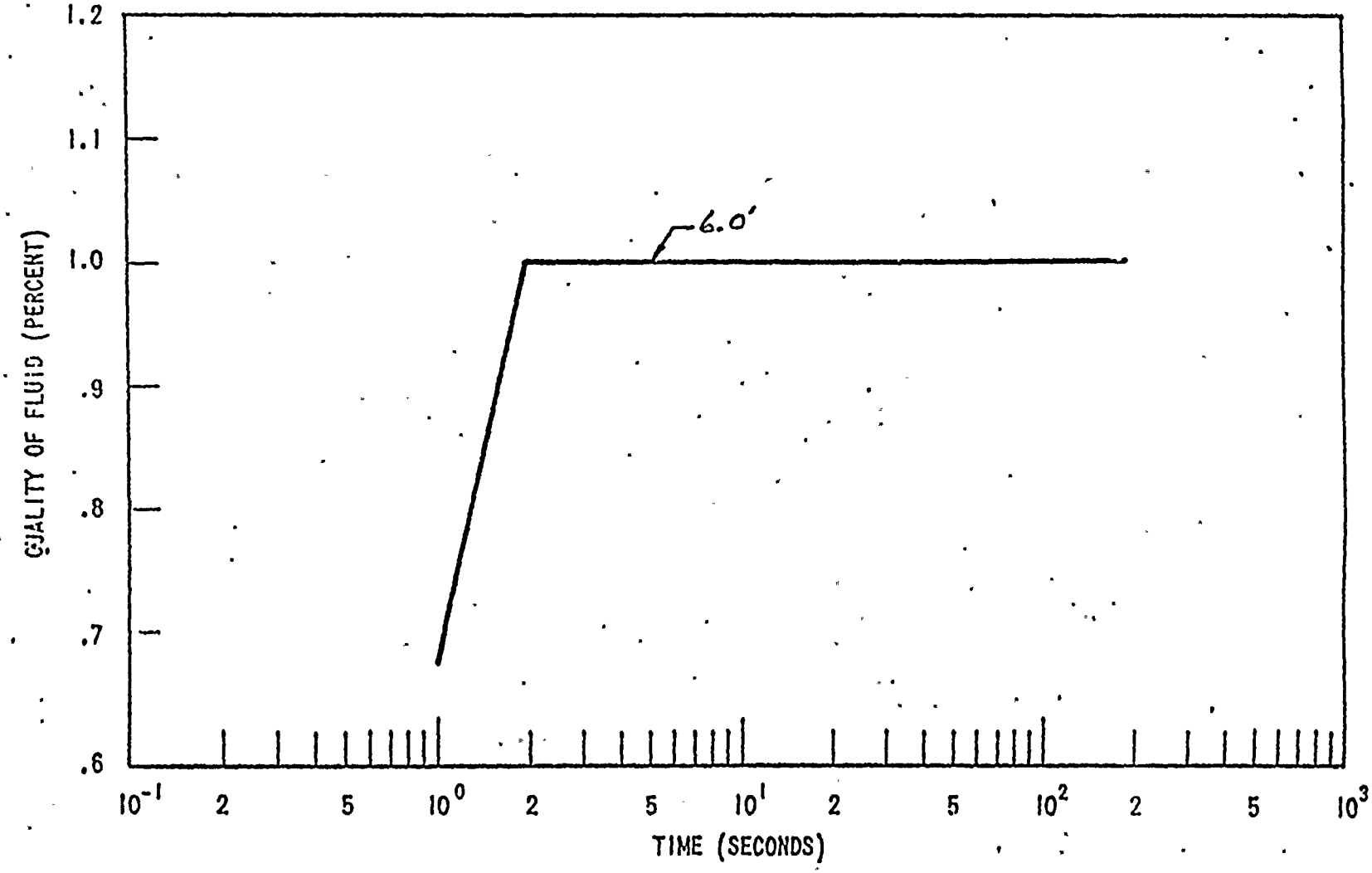

Figure 1d. Fluid Quality – DECLG (C_D = 0.4)

10.749-4

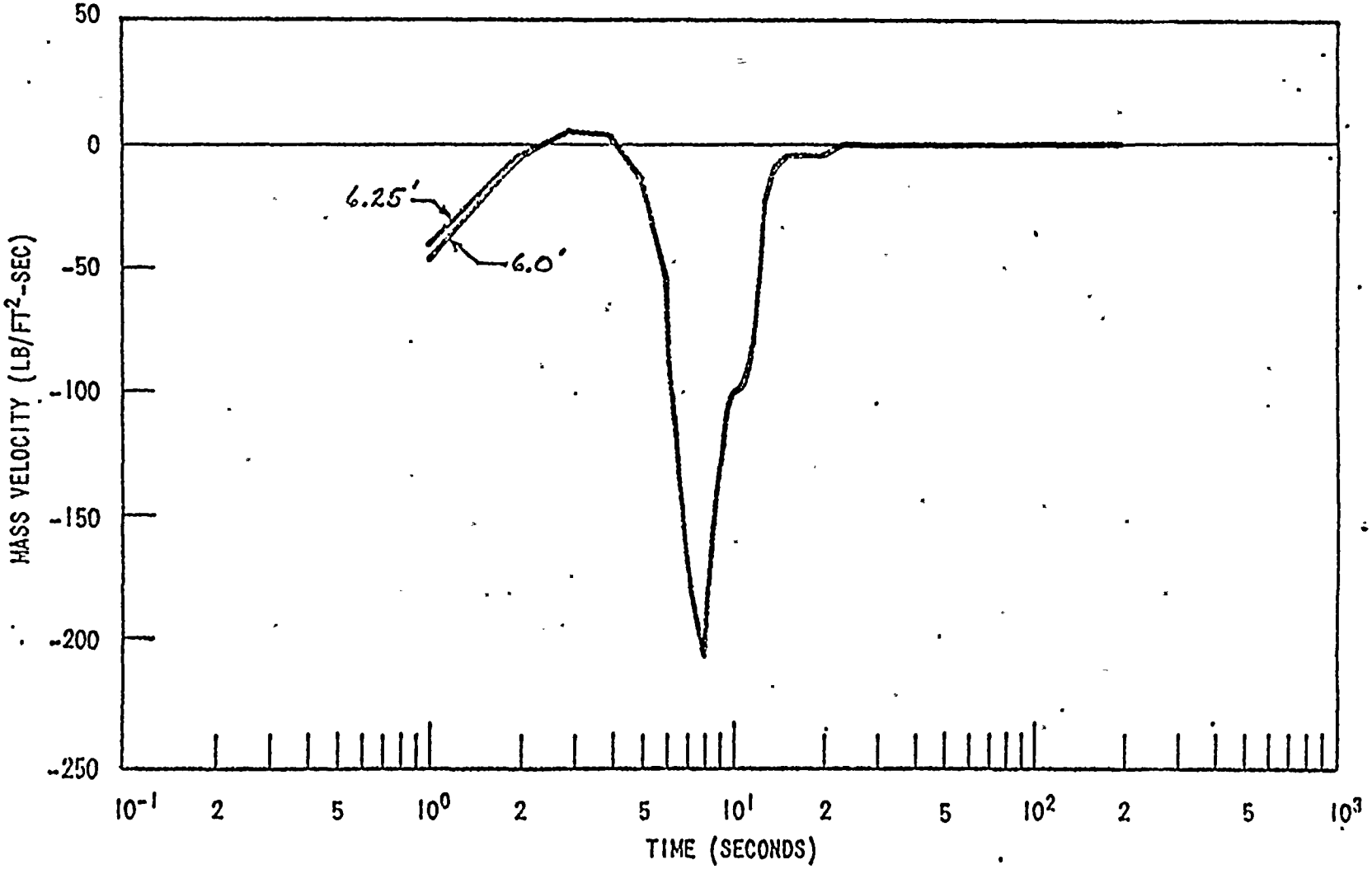

Figure 2a. Mass Velocity – DECLG (C_D = 1.0)

10.749-5

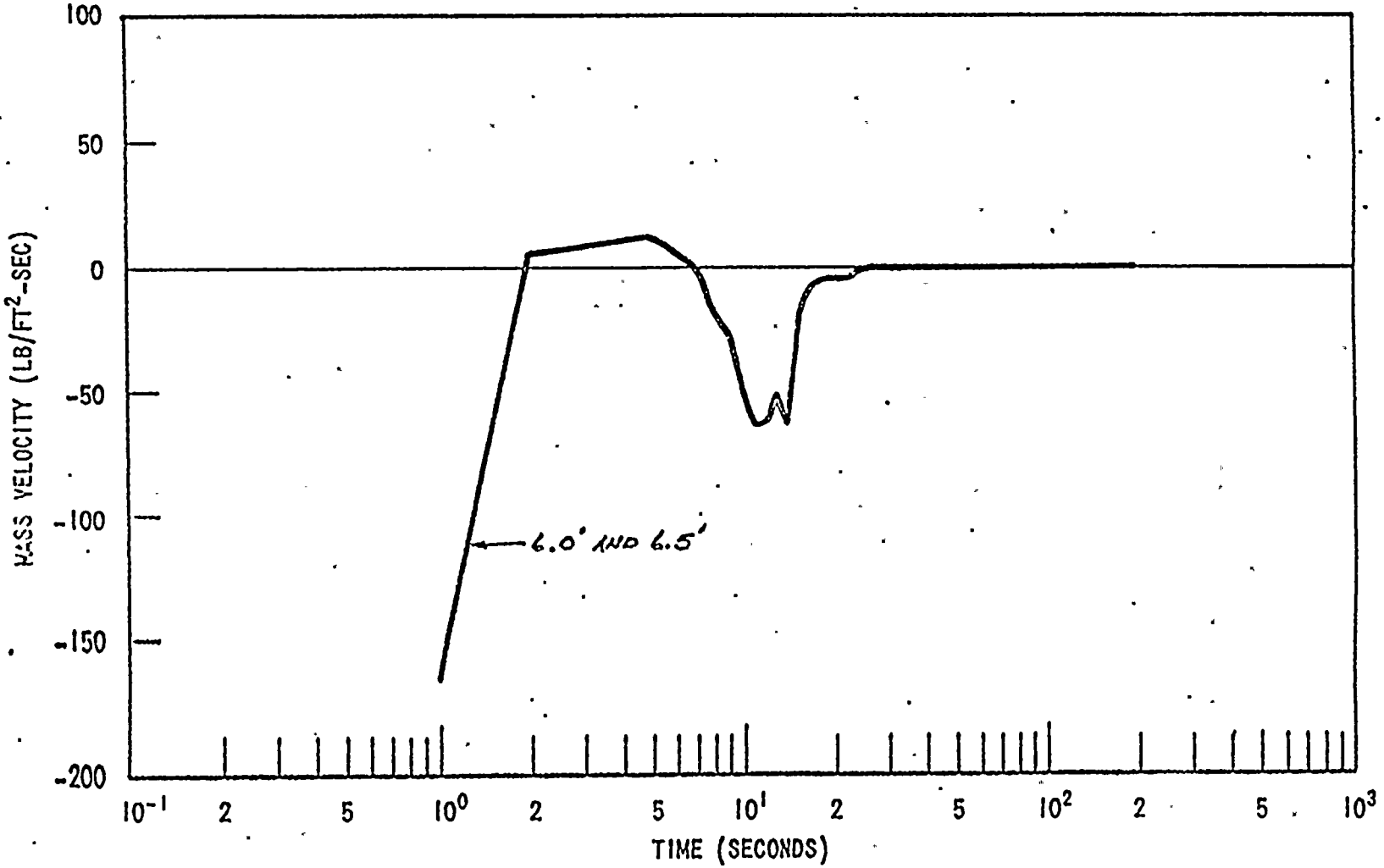

Figure 2b. Mass Velocity -- DECLG (C_D = 0.6)

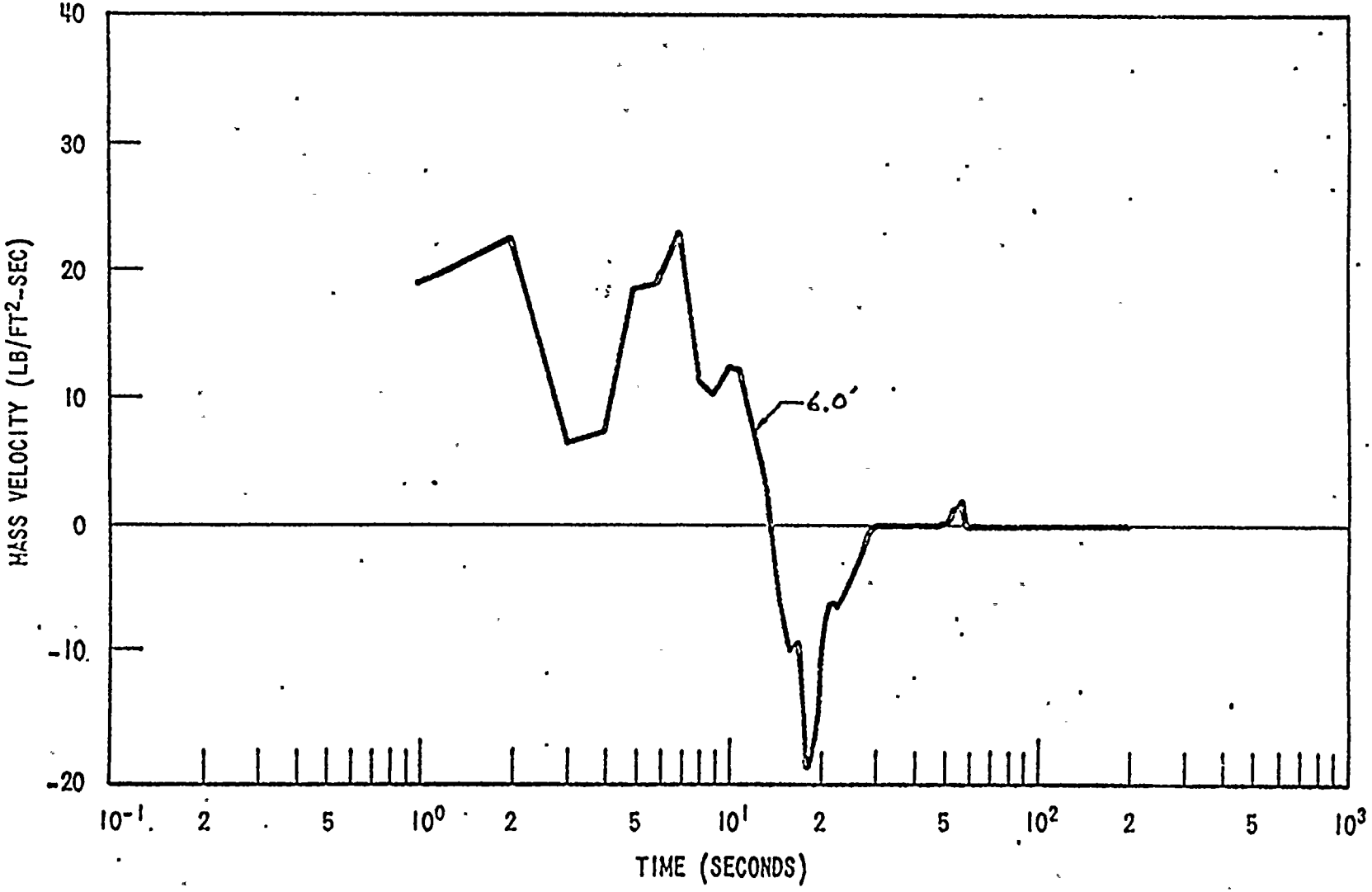

Figure 2c. Mass Velocity – DECLG (C_D = 0.4)

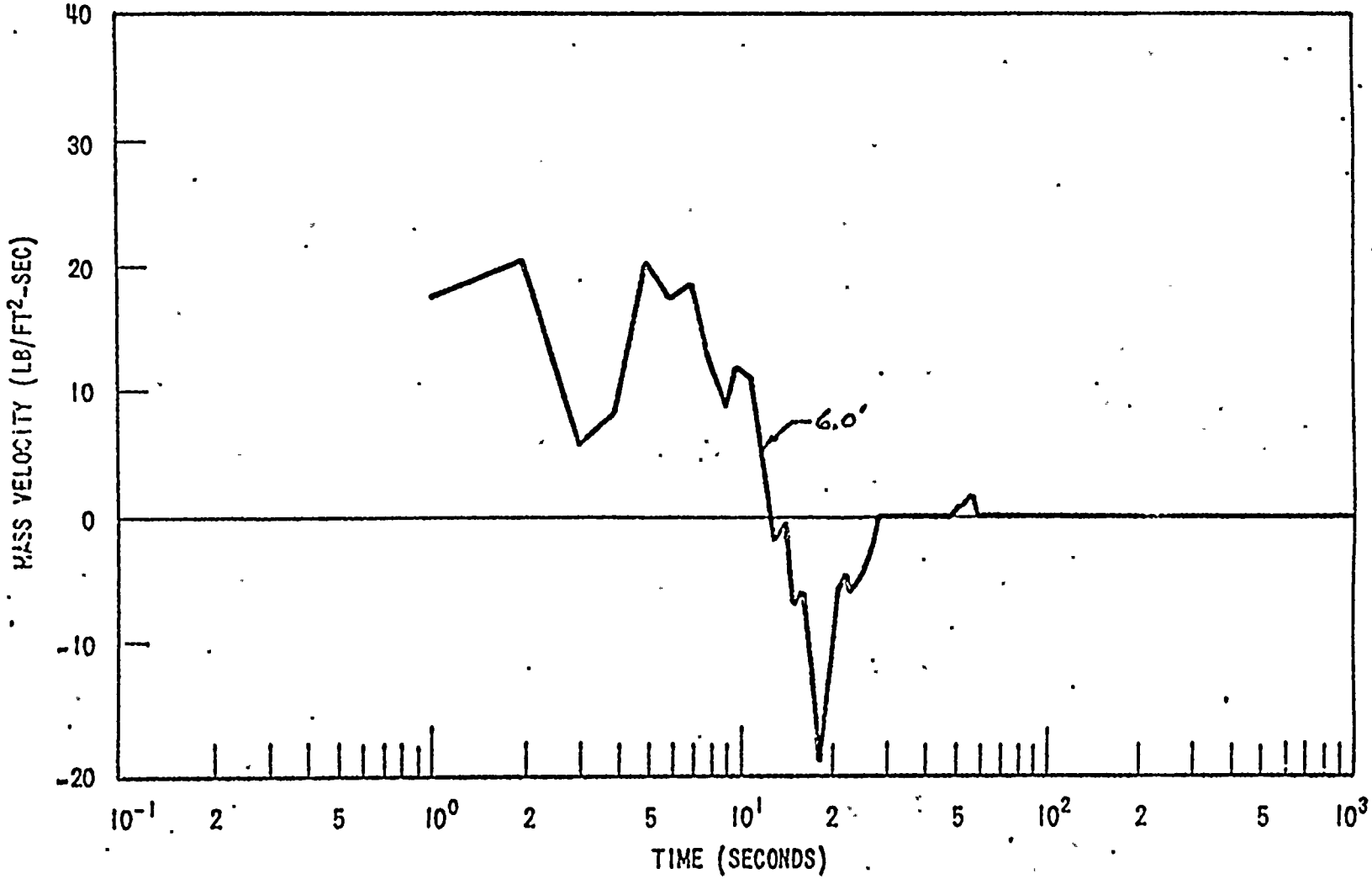

Figure 2d. Mass Velocity - DECLG (C_D = 0.4)

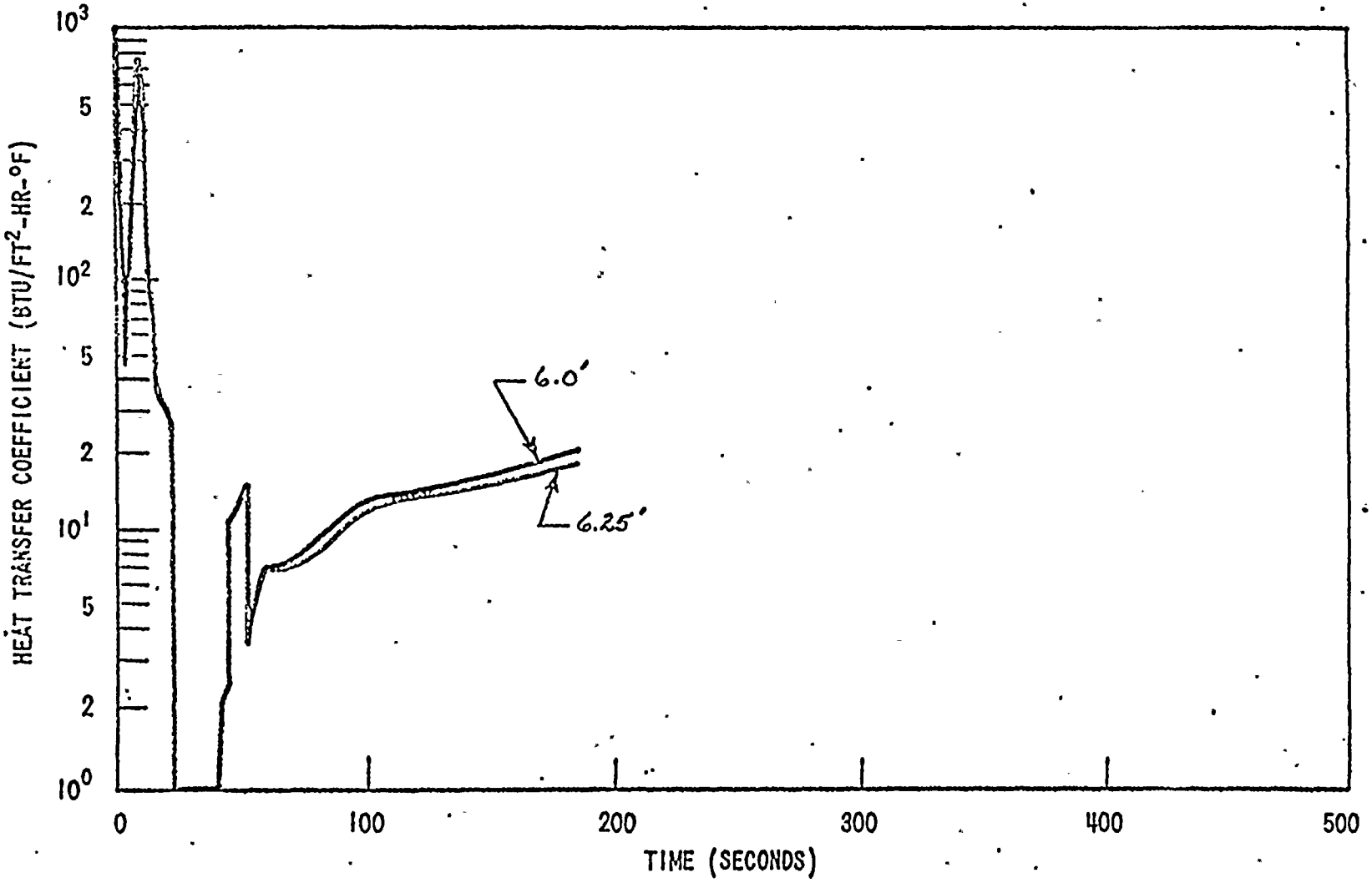

Figure 3a, Heat Transfer Coefficient – DECLG (C_D = 1.0)

10.7H9-9

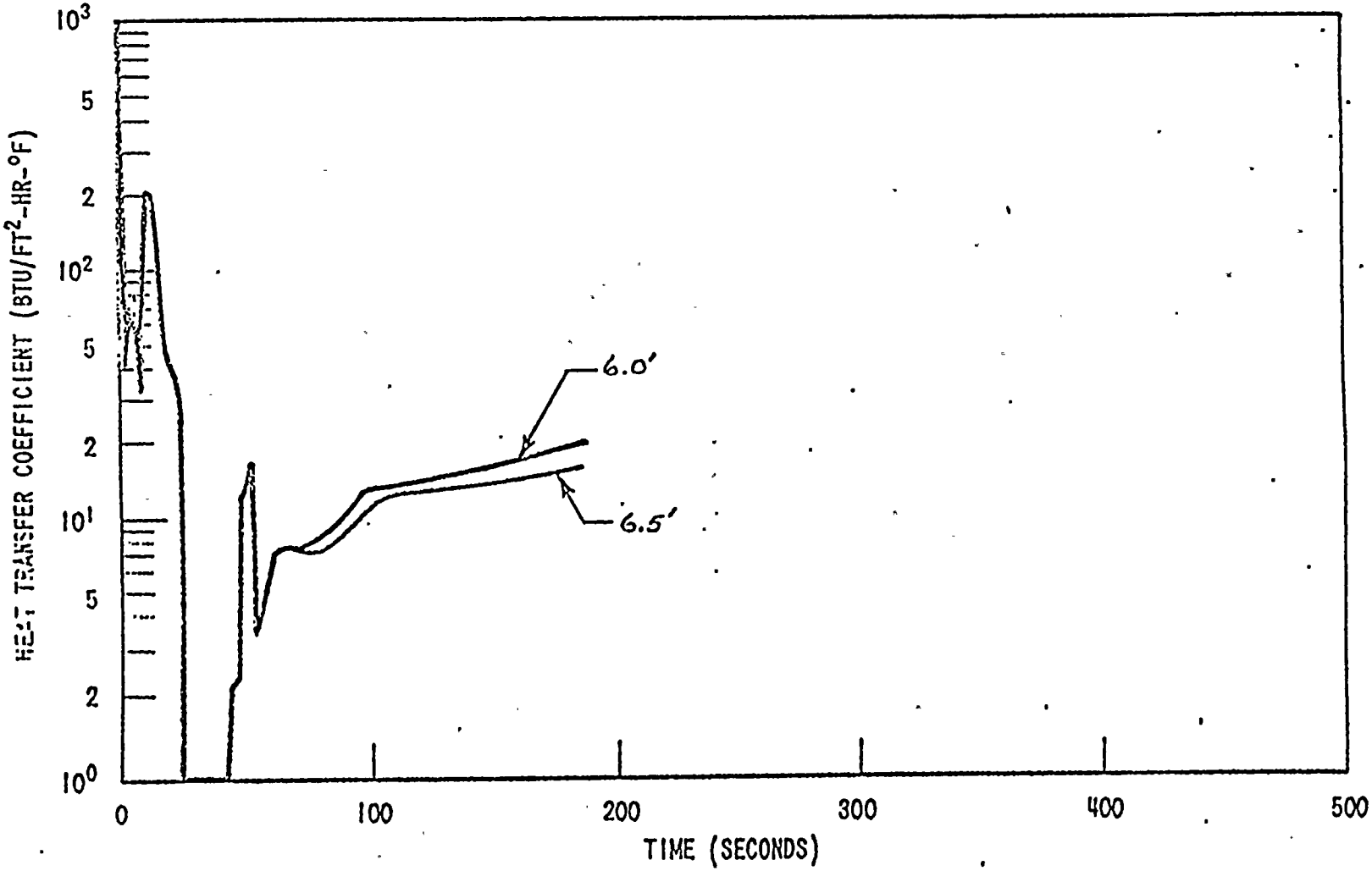

Figure 3b. Heat Transfer Coefficient – DECLG (C_D = 0.6)

10.749-10

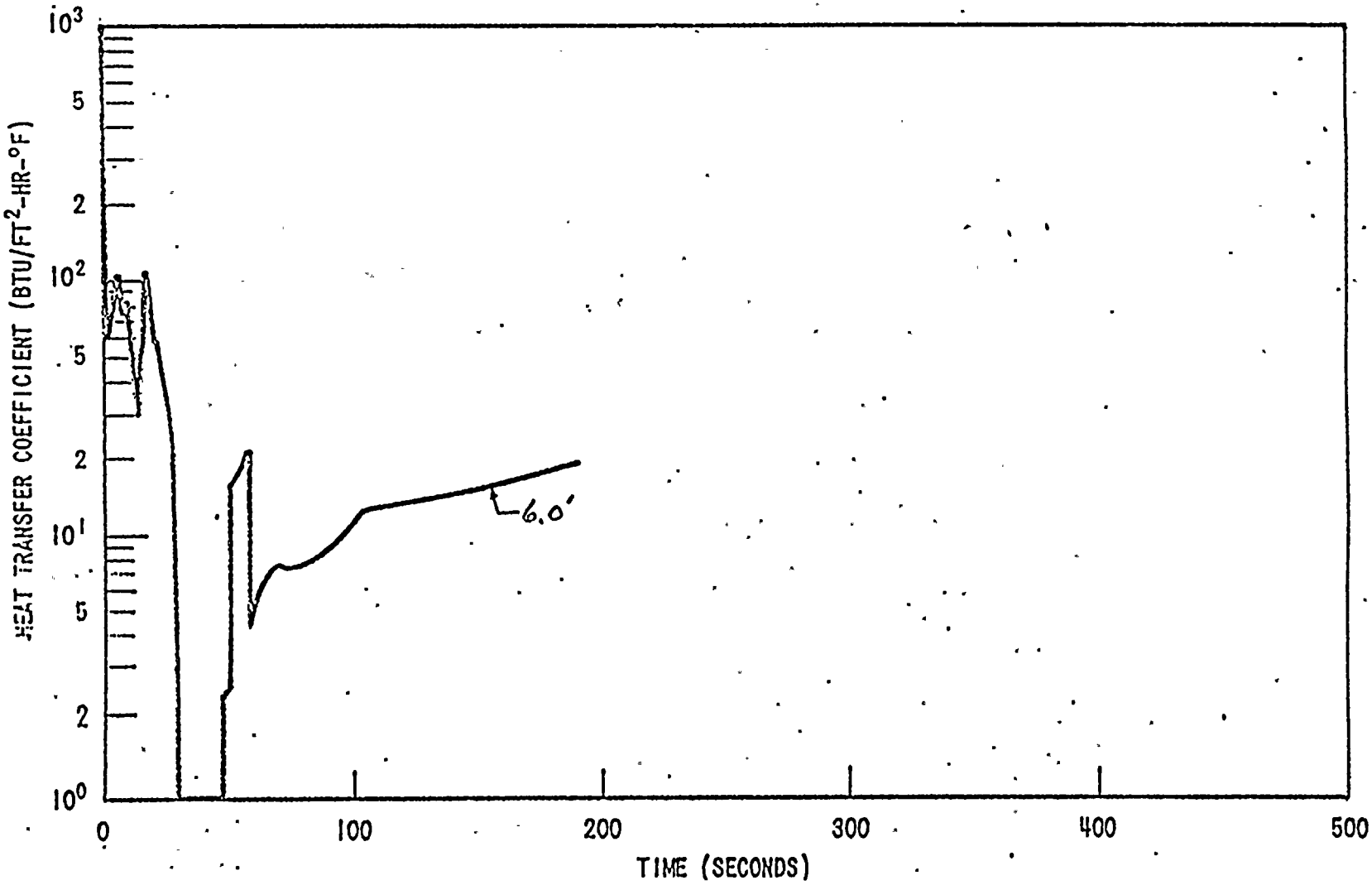

Figure 3c. Heat Transfer Coefficient – DECLG (C_D = 0.4)

10.749-11

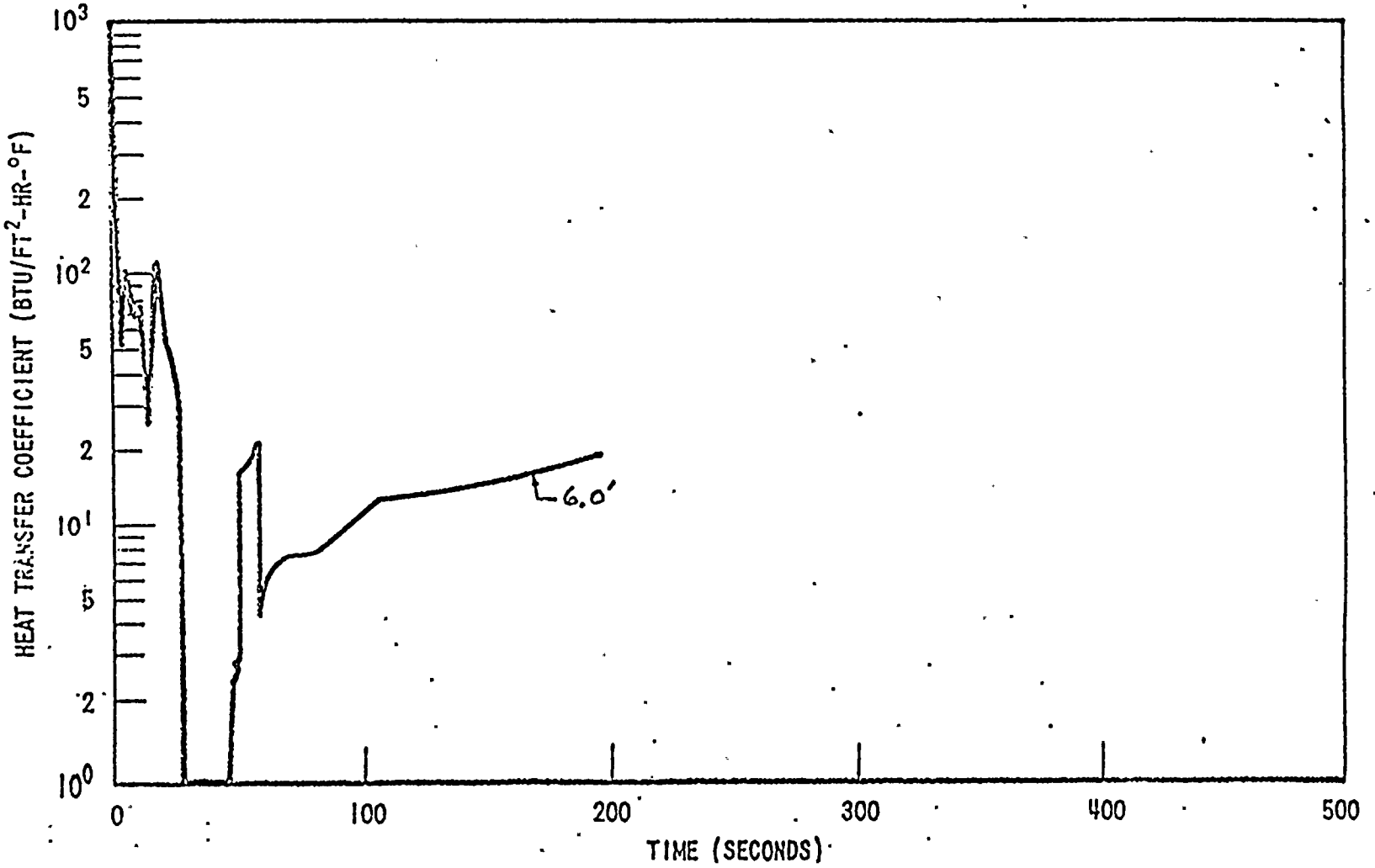

Figure 3d. Heat Transfer Coefficient -- DECLG (C_D = 0.4)

10-749-12

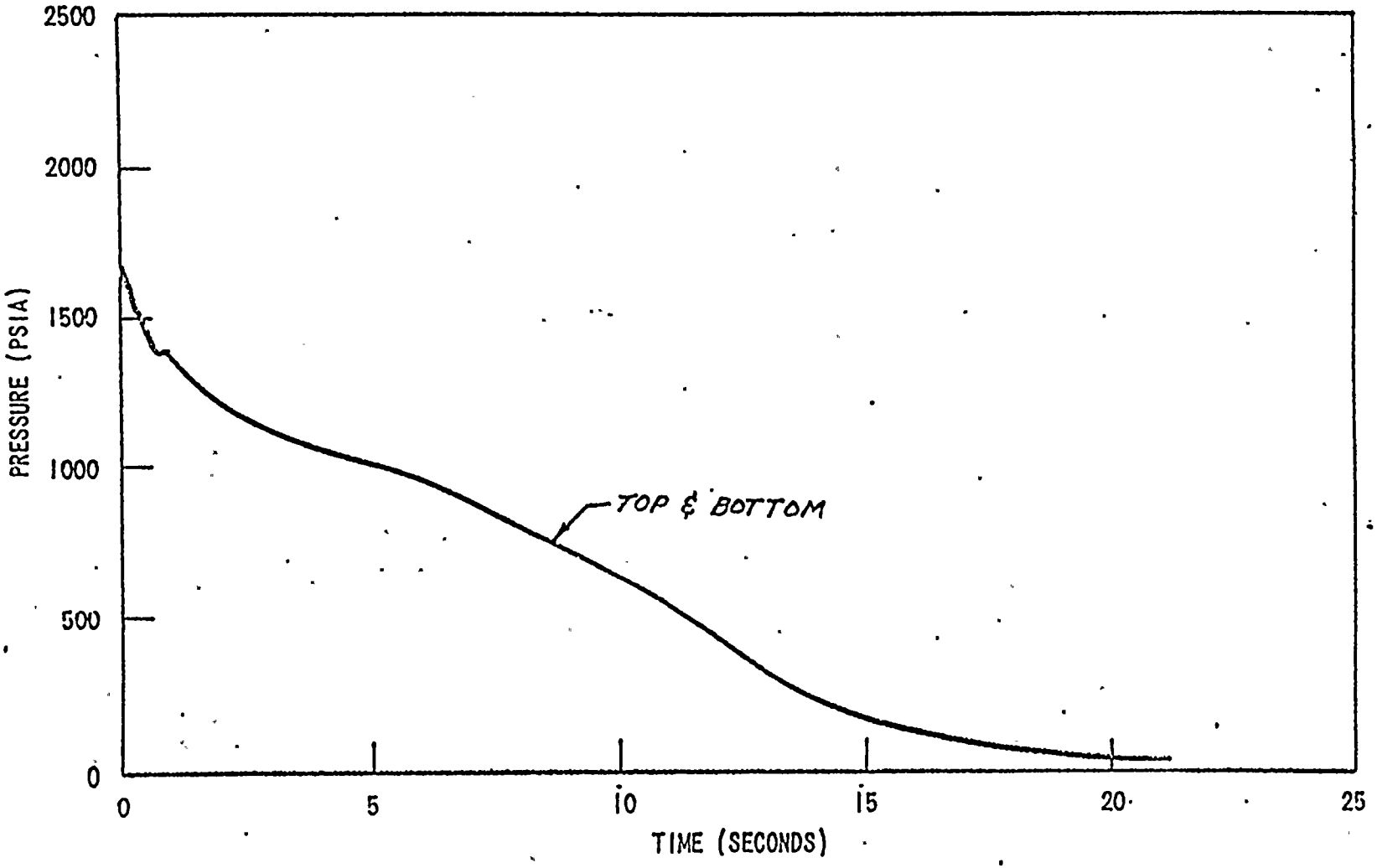

Figure 4a. Core Pressure – DECLG (C_D = 1.0)

10.749-13

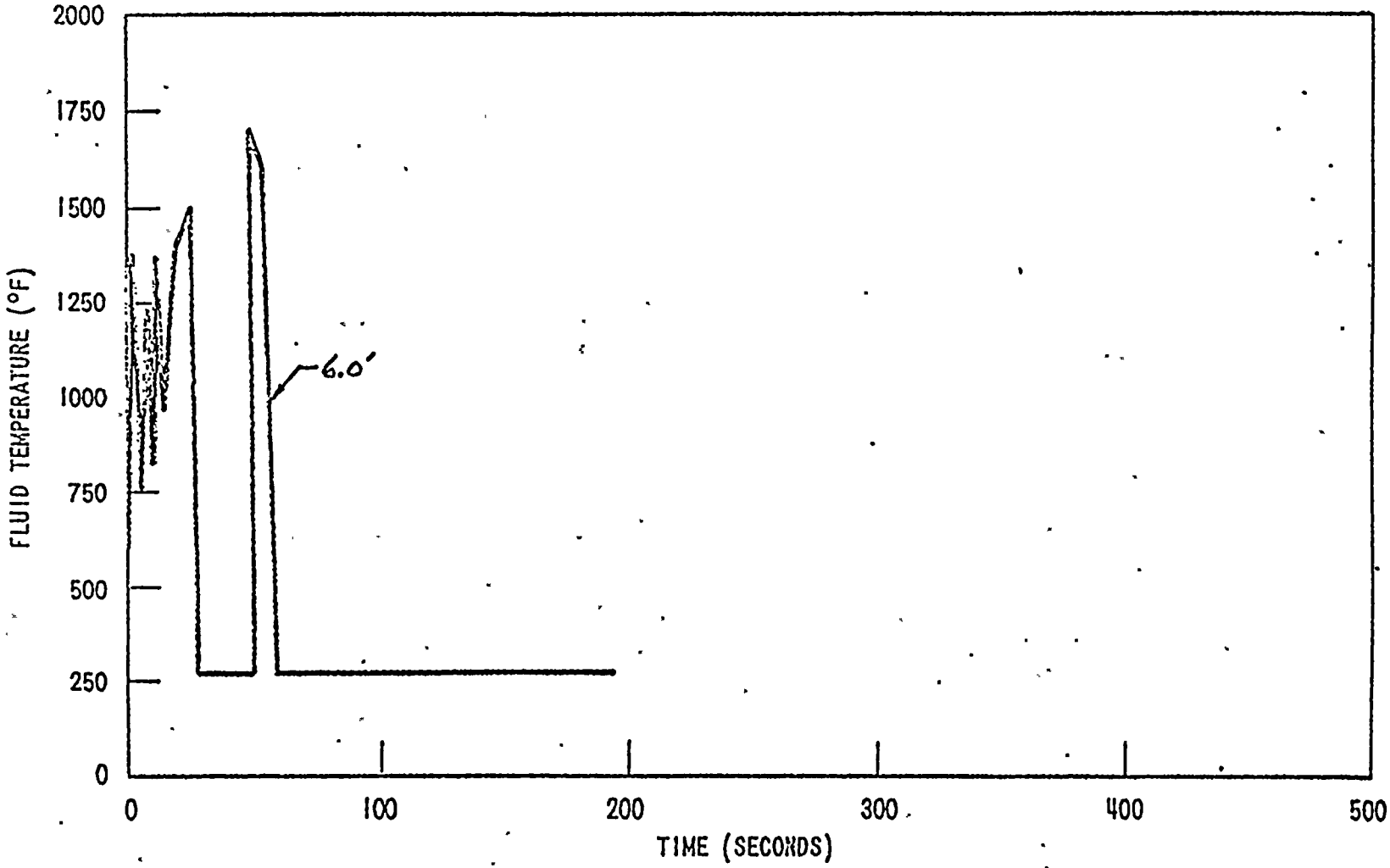

Figure 8d. Fluid Temperature – DEGLG (C_D = 0.4)

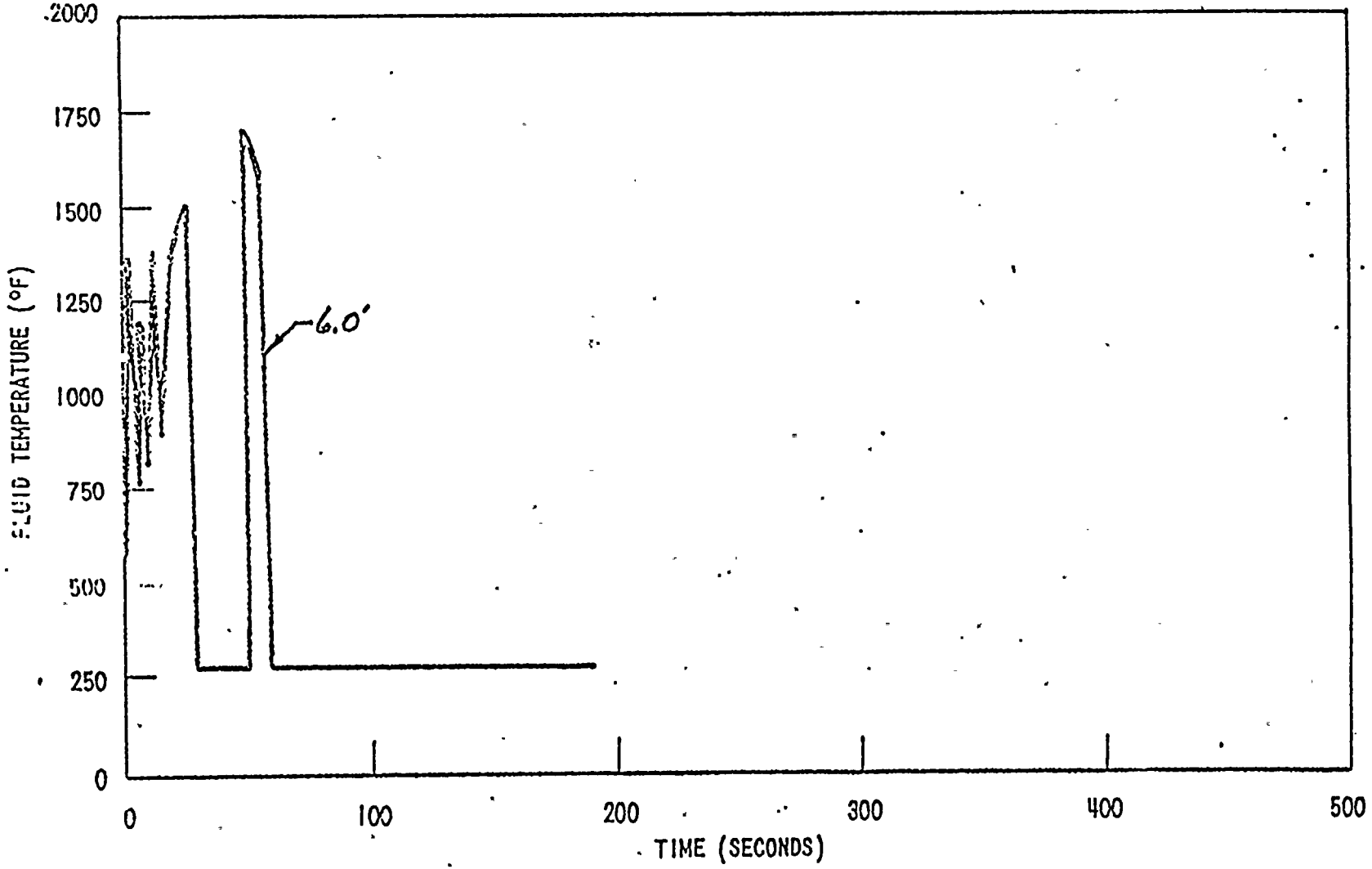

Figure 8c. Fluid Temperature – DECLG (C_D = 0.4)

10.749-31

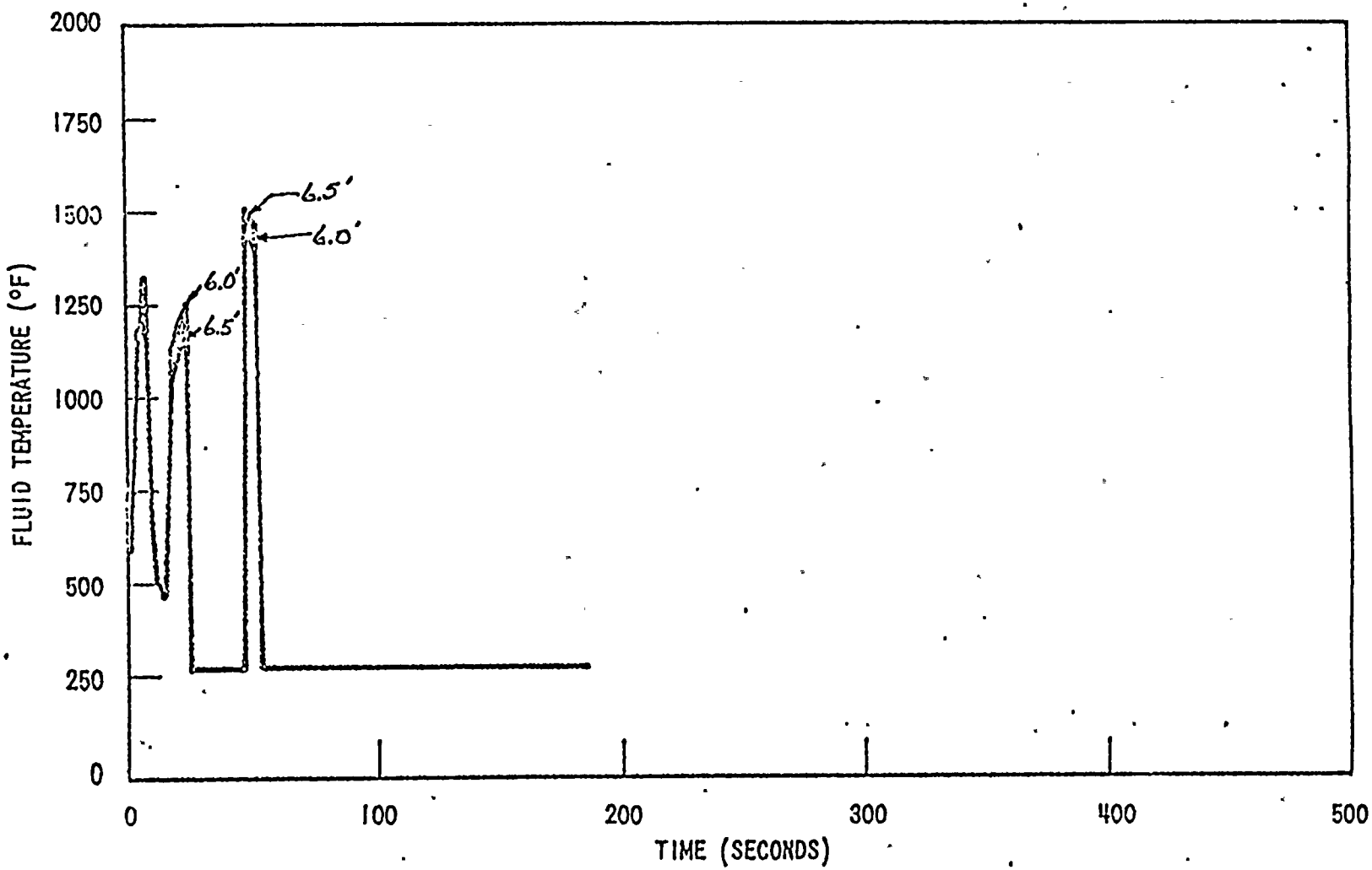

Figure 8b. Fluid Temperature – DECLG (C_D = 0.6)

10.749-30

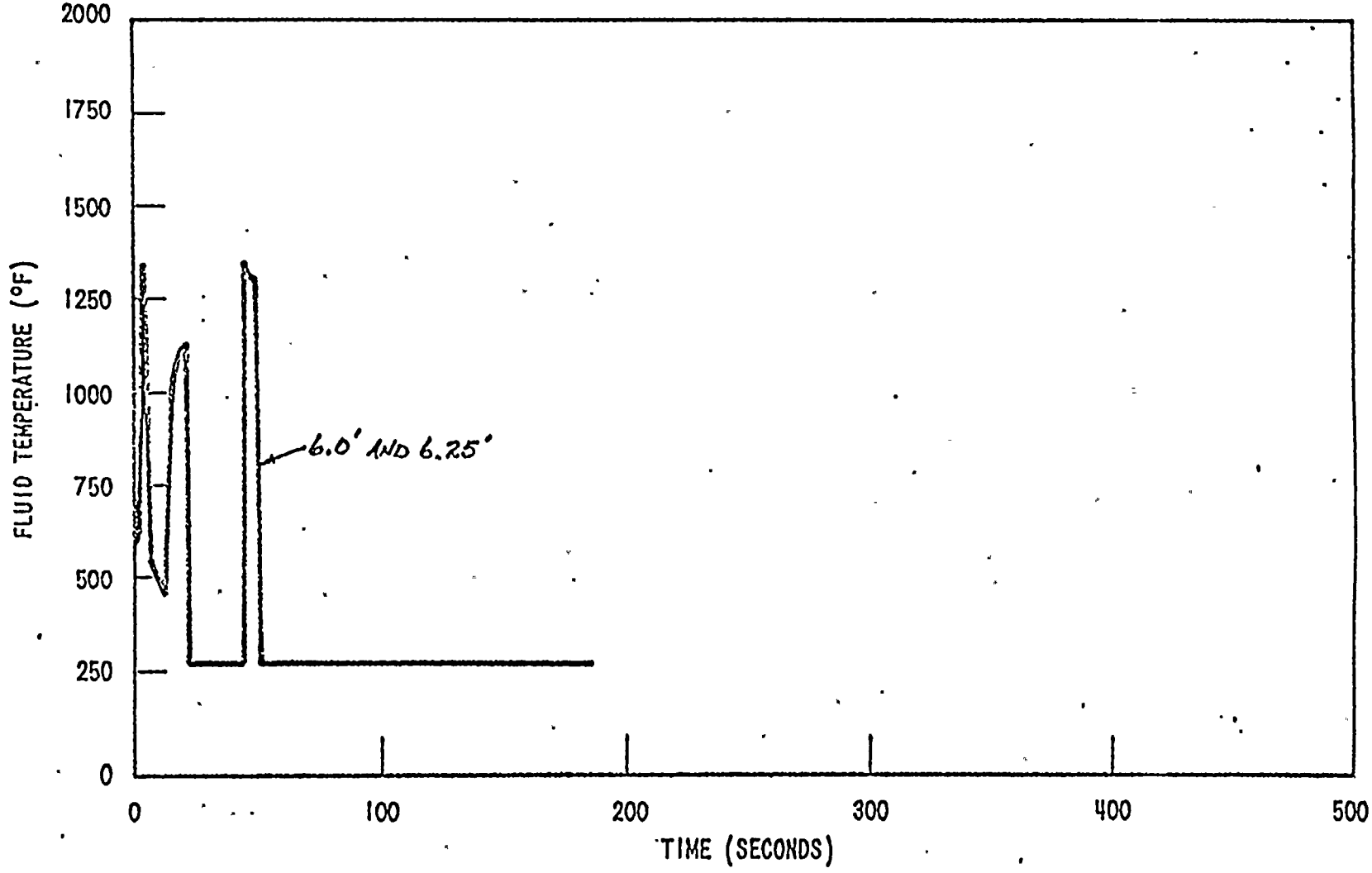

Figure 8a. Fluid Temperature – DECLG (C_D = 1.0)

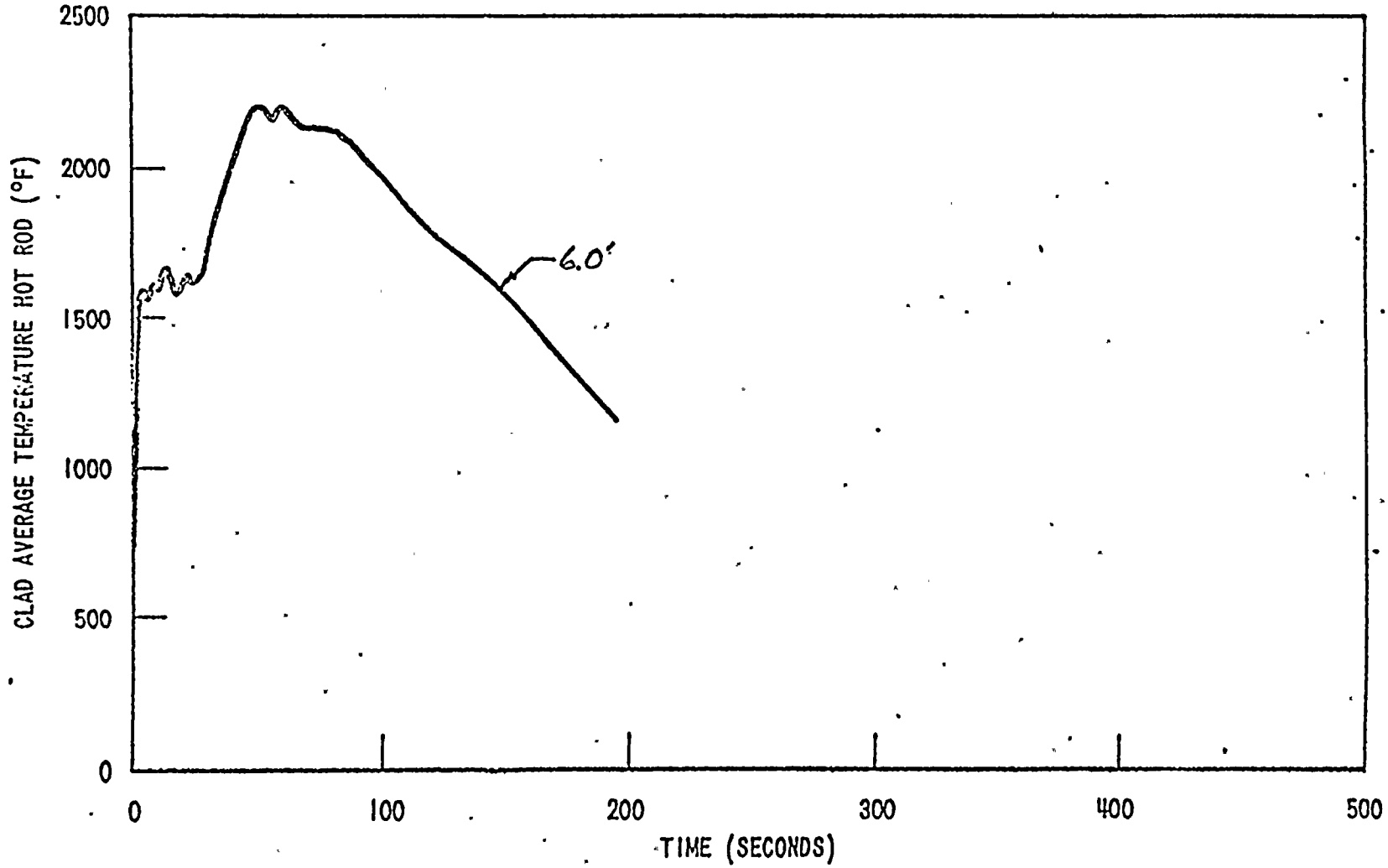

Figure 7d. Peak Clad Temperature – DECLG (C_D = 0.4)

10-749-33

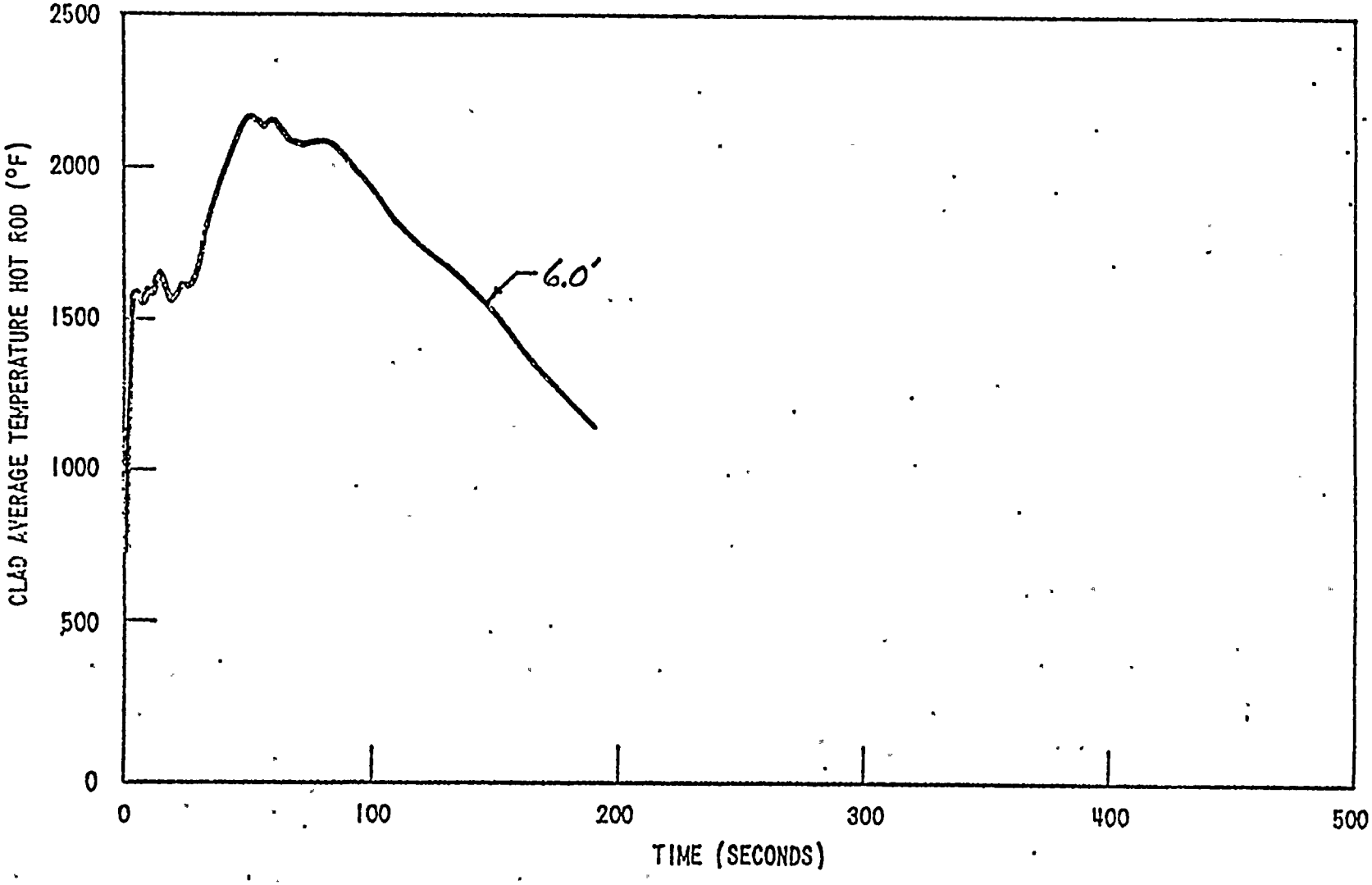

Figure 7c. Peak Clad Temperature – DECLG (C_D = 0.4)

10.749-27

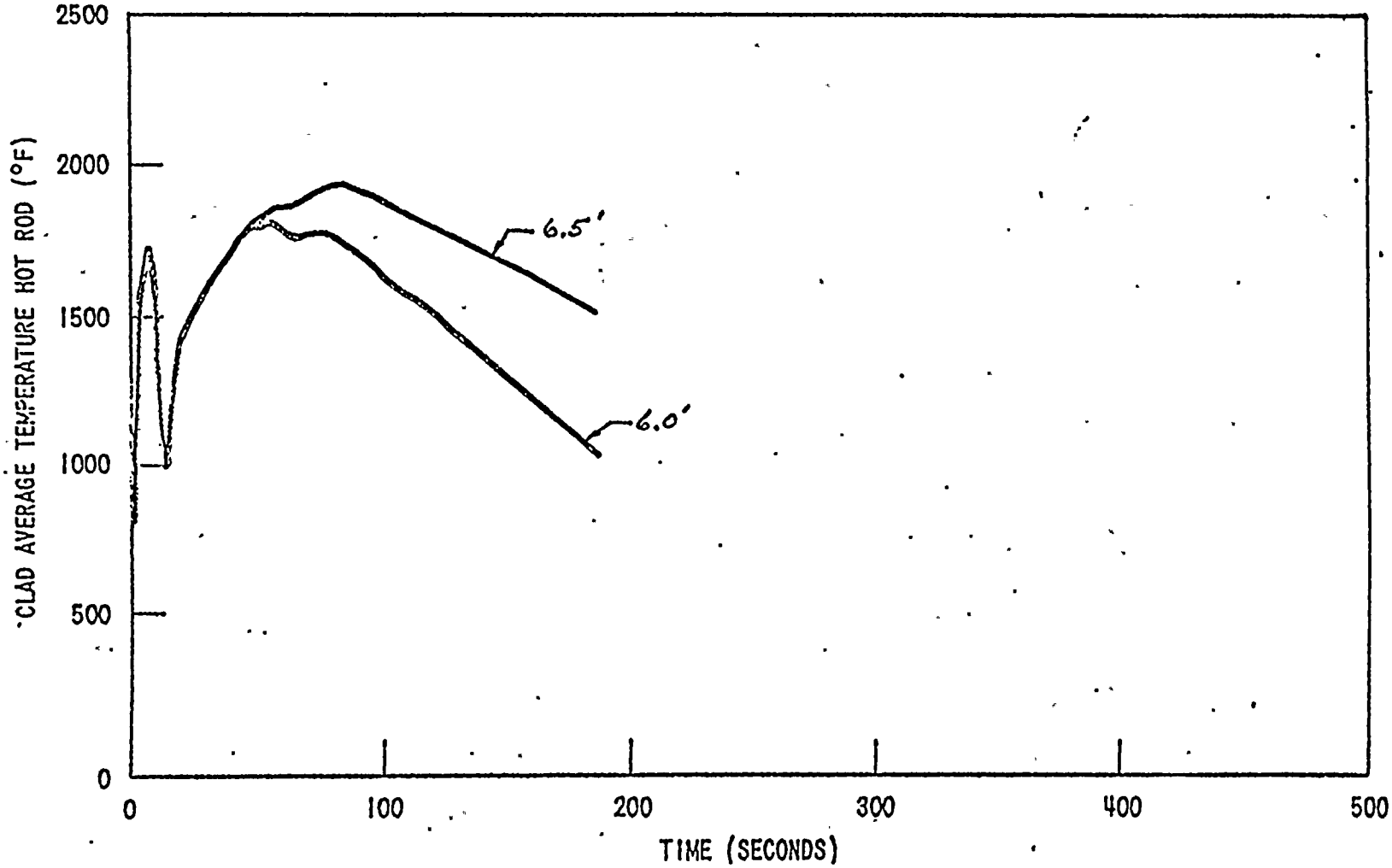

Figure 7b. Peak Clad Temperature – DECLG (C_D = 0.6)

10.7-9-25

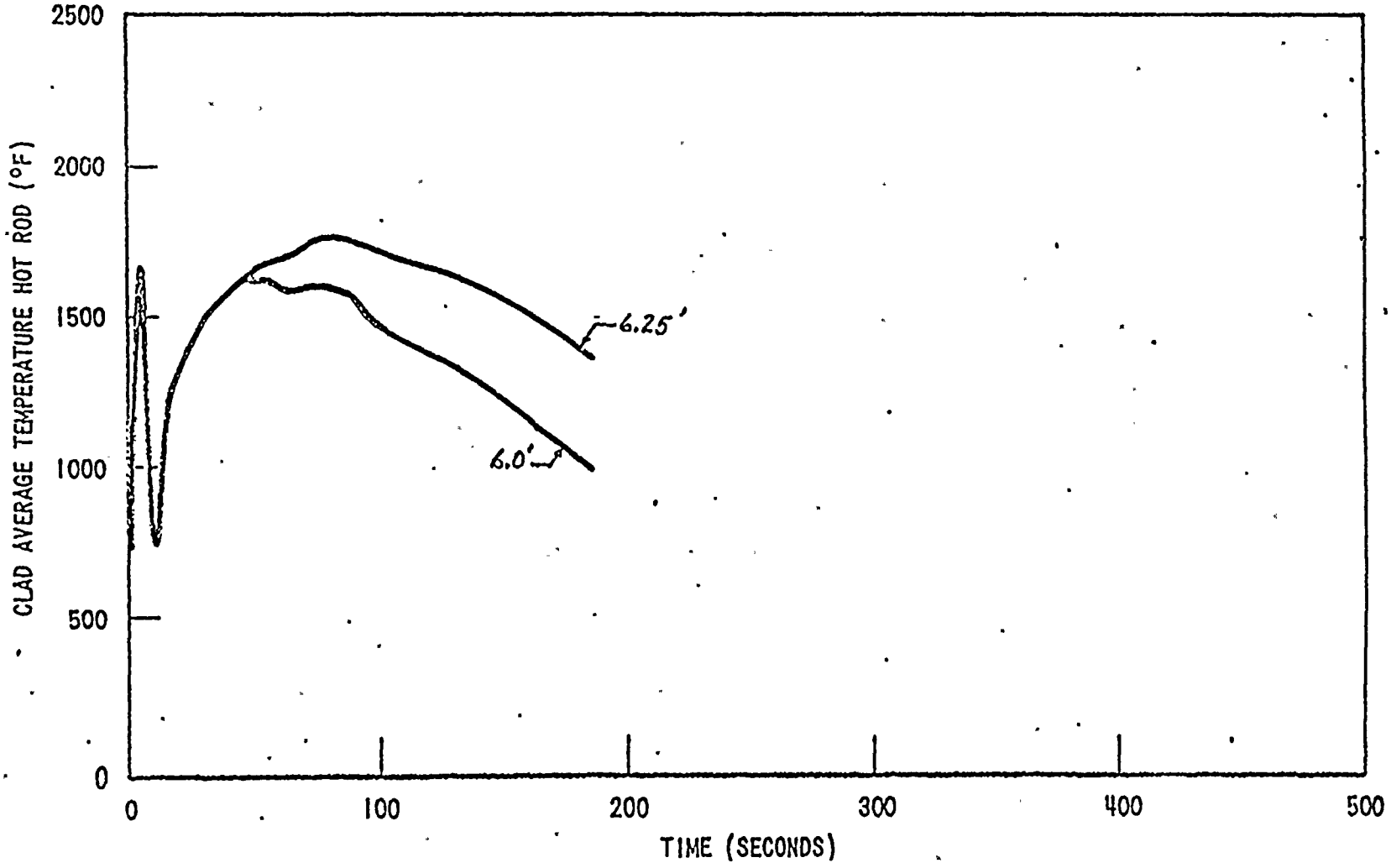

Figure 7a. Peak Clad Temperature – DECLG (C_D = 1.0)

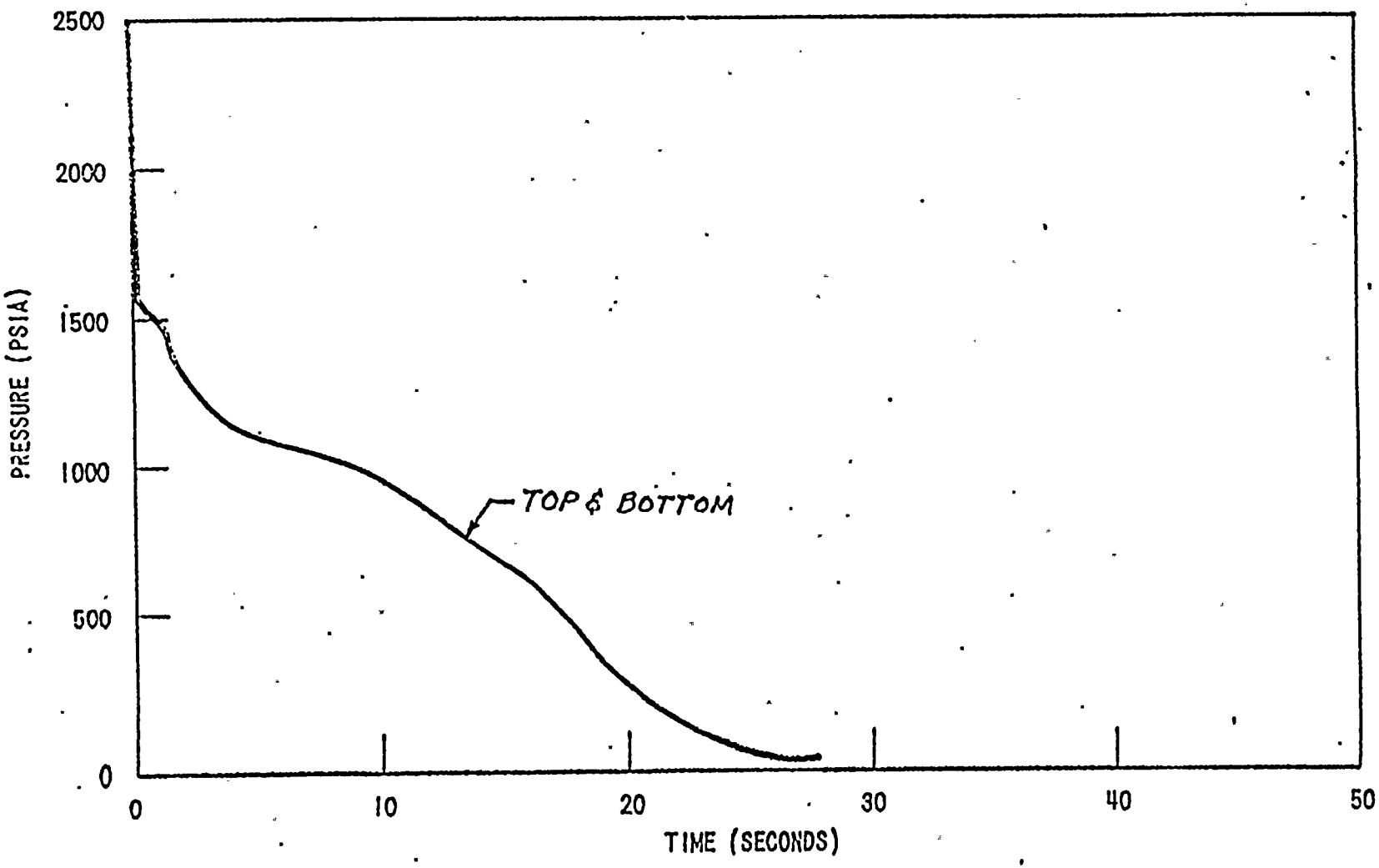

Figure 4d. Core Pressure – DECLG (C_D = 0.4)

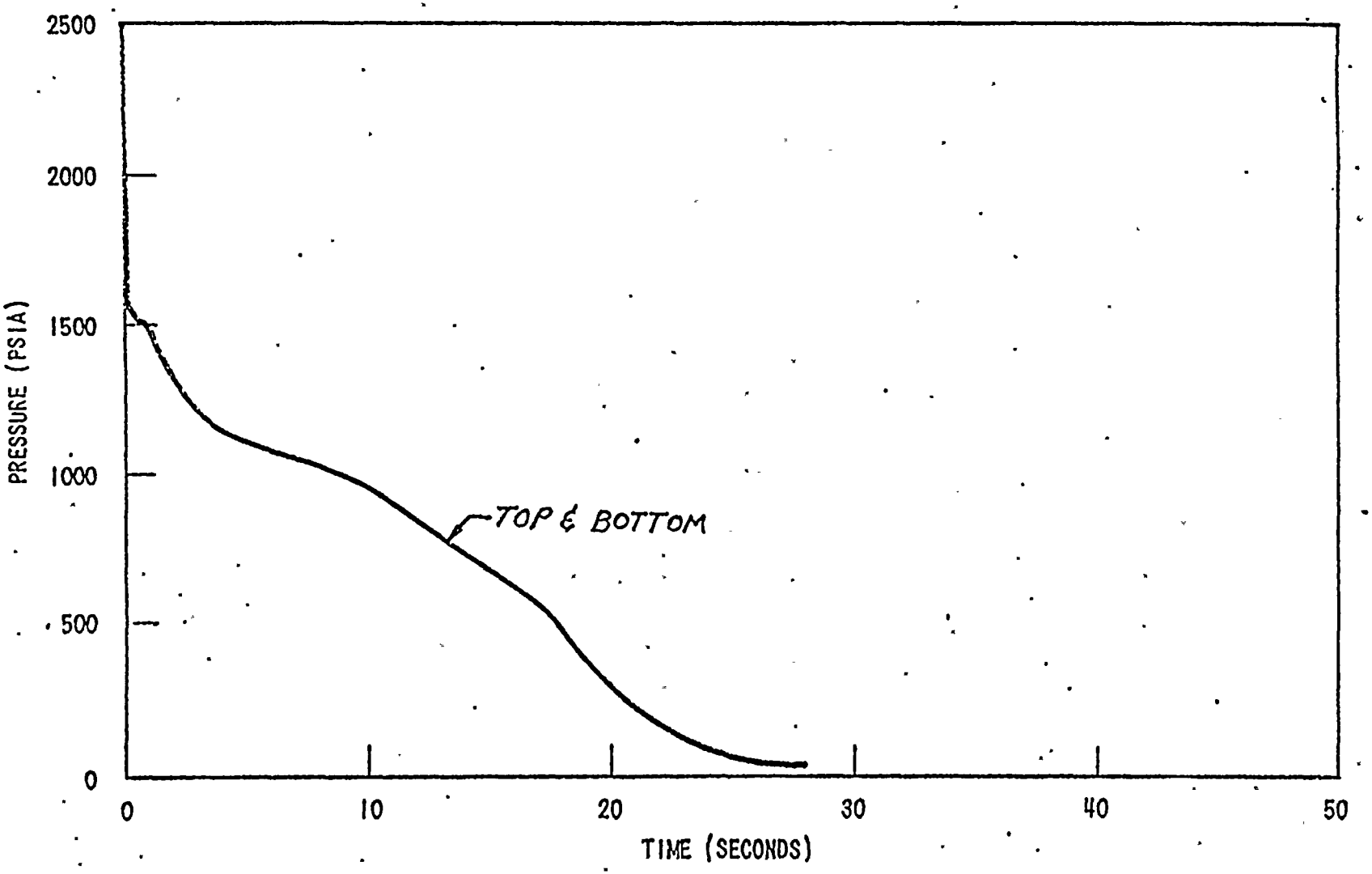

Figure 4c. Core Pressure – DECLG (C_D = 0.4)

10.749-15

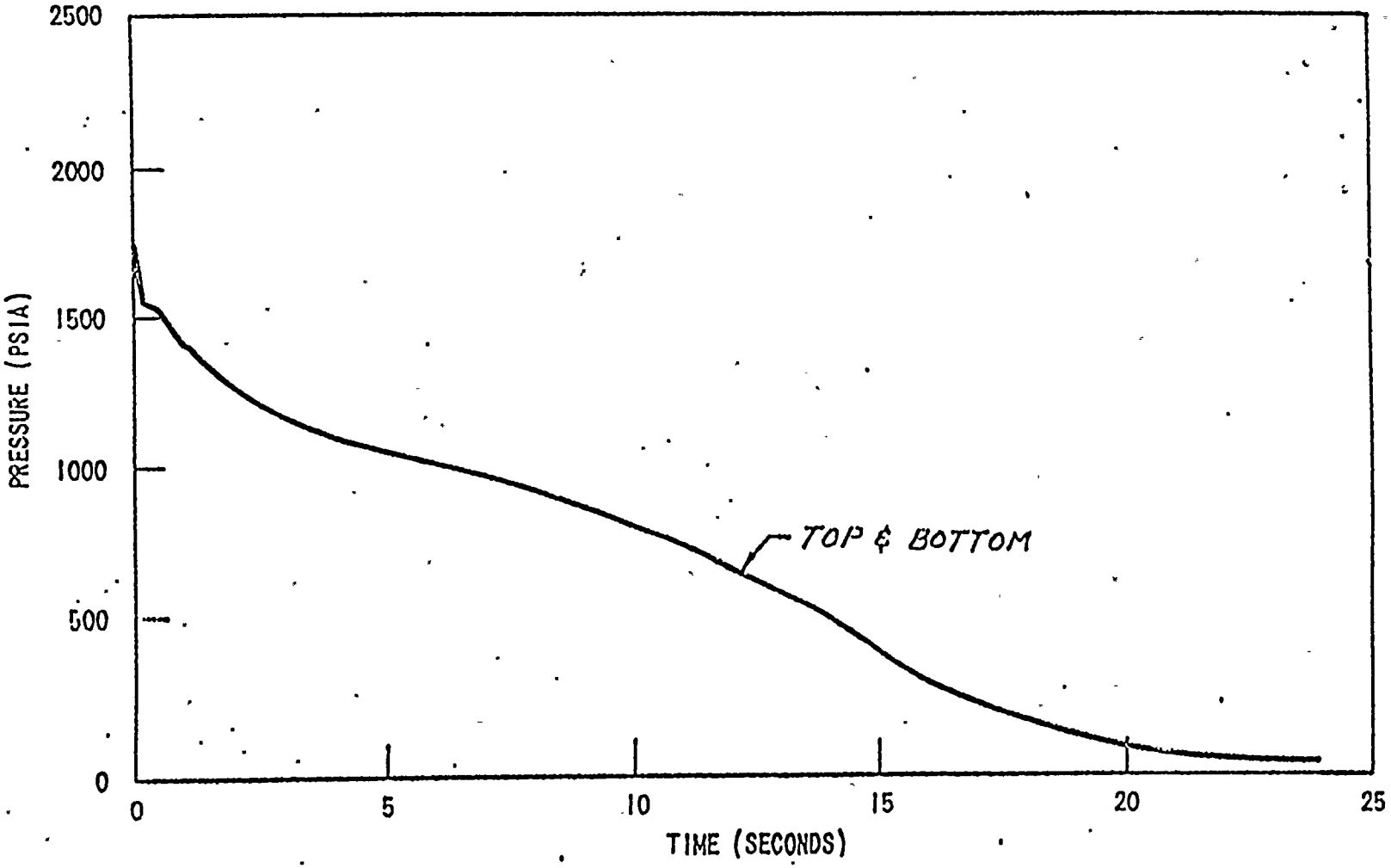

Figure 4b. Core Pressure – DECLG (C_D = 0.6)