

CPSC (60X) CLEARED for PUBLIC
9/1/04
NO MFRS/PVT LBRS OR
PRODUCTS IDENTIFIED
EXCEPTED BY: PETITION
RULEMAKING ADMIN. PROC.
WITH PORTIONS REMOVED:

CPSC MEETING LOG: UPHOLSTERED FURNITURE

Meeting Between: CPSC staff and representatives of the National Textile Association
Date of Meeting: August 19, 2004
Meeting Site: CPSC Headquarters, Bethesda Towers, Bethesda, MD
Log Entry By: Dale R. Ray, Project Mgr., EC, (301) 504-7704 *DR*
Participants: Hardy Poole, NTA
David Pettey, Quaker Fabrics / The Fabric Coalition

- Patty Adair, CPSC / ES
- Russ Batson, American Furniture Mfrs. Ass'n.
- Jacqueline Elder, CPSC / EXHR
- Patricia Fairall, CPSC / CA
- Herman Forsten, DuPont
- Bob Franklin, CPSC / EC
- Michael Greene, CPSC / EP
- Jason Hartman, CPSC / CA
- Scott Heh, CPSC / EXHR
- Rik Khanna, CPSC / ES
- Lowell Martin, CPSC / OGC
- Sean Oberle, Product Safety Letter
- Dale Ray, CPSC / EC
- Greg Rodgers, CPSC / EC
- Chuck Smith, CPSC / EC
- Andy Stadnik, CPSC / LS
- Weiyang Tao, CPSC / LS
- Jeffery Troutt, CPSC / Ofc. of Chmn. Stratton
- Phil Wakelyn, National Cotton Council
- Pamela Weller, CPSC / Ofc. of Comm. Moore
- Joe Ziolkowski, Upholstered Furniture Action Council

Summary:

This meeting was requested by NTA to present information on an industry-sponsored interlaboratory study (ILS) on a small open flame test method for upholstery cover fabrics. NTA members and others undertook this testing project to support their recommendations to CPSC regarding a possible proposed flammability rule for upholstered furniture. Mr. Ray presented a brief summary of these activities, and noted that the CPSC staff was in the process of revising its draft standard, consistent with the agency's October 2003 advance notice of proposed rulemaking (ANPR) covering both cigarette and small open flame ignitions of upholstered furniture.

Following some introductory remarks by Mr. Poole, Mr. Pettey presented a summary of the technical results of the fabric test ILS. A copy of Mr. Pettey's presentation slides is attached. The 5-second small open flame component test method under discussion was submitted by the Fabric Coalition (a group of textile producers) and others in response to the October 2003 ANPR. The overall conclusion of the study was that the method demonstrated reasonable repeatability and reproducibility within and among laboratories; thus, results of the test would be statistically reliable.

Mr. Pettey stated that 80-85% of his company's fabrics (which are predominantly of thermoplastic fiber content) would fail the small open flame test without flame retardant (FR) treatment of some kind. He stated that many cellulosic fiber fabrics (e.g., predominantly cotton, with the exception of some cotton prints) would be more likely to pass the recommended 5-second test. He noted, however, that textile manufacturers could readily produce thermoplastic fabrics that would pass the test, using about one-third as much latex backcoating material and about one-eighth as much FR chemical loading as would be necessary under the CPSC staff's previous draft small open flame standard.

Mr. Ray noted that some quick-burning (i.e., failing) fabrics may transfer relatively little heat to furniture components beneath the fabric; he asked a number of questions regarding the relationship between the ILS-observed 5-second test results and performance of fabrics in composite seating mockups with combinations of materials used in upholstered furniture. Mr. Pettey stated his view that complying fabrics would provide a higher level of safety than current fabrics in composite tests. Mr. Batson asked if passing fabrics would have a lower propensity to ignite polyurethane foam that met the draft revised California Technical Bulletin 117; Mr. Pettey stated his view that such fabrics would exhibit the desired lower ignition propensity. Mr. Ziolkowski noted that furniture and fabric manufacturers were in the process of conducting some mockup tests with combinations of materials and components meeting their recommended standard, and would provide those results to CPSC in the near future. Industry representatives could present the results of this work to CPSC by September 2004.

Attachment

***Fabric Coalition “5 Second
Test” – Review of Round Robin
Results***

CPSC – 8/9/2004

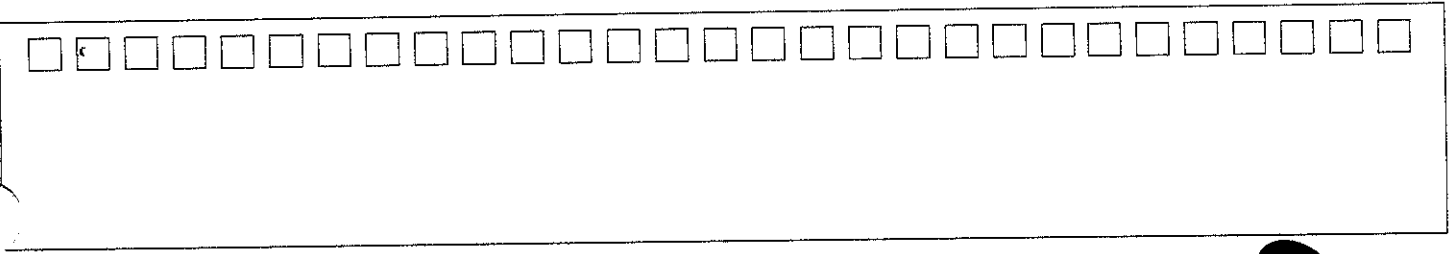
Bethesda, MD

Overview

1. Summary Statements:

2. Statistical Details:

***3. Discussion & Data
Clarification:***



I. Summary Statements:

- 1. Fabric Classification: 98.9% agreement among the 9 labs and 10 fabrics, demonstrating the ability of test method to reproduce results among varied fabric styles and laboratories.**
- 2. Reproducibility of Burn Times: Average reproducibility (% CV) among labs was ~12%.**
- 3. Repeatability of Burn Times: Average repeatability (% CV) within labs was 6.5%.**

I. Summary Statements:

- 4. Repeatability of Burn Times: Average k value of 1.06.**
- 5. Reproducibility of Burn Times: 97.6% of calculated h values are below the *critical h* value.**
- 6. Variability as expected, is high between specimens owing to inherent variations within fabric constructions. Sample size of 10 per fabric construction (5 warp, 5 filling) is appropriate as evidenced by reproducibly and repeatability values.**

II. Statistical Details:

1. Fabric Classification: 98.9% agreement among the 9 labs and 10 fabrics, demonstrating the ability of test method to reproduce results among varied fabric styles and laboratories.

Classification Ratings

Pattern	Lab a	Lab b	Lab c	Lab d	Lab e	Lab f	Lab g	Lab h	Lab I	% Agreement
AA-40053	1	1	1	1	1	1	1	1	1	100.00%
EE-40061	1	1	1	1	1	1	1	1	1	100.00%
H-40015	1	1	1	1	1	1	1	1	1	100.00%
HH-400X1	0	0	0	0	0	0	0	0	0	100.00%
J-40019	1	1	1	1	1	1	1	1	1	100.00%
R-40035	1	1	1	1	1	1	1	1	1	100.00%
T-40040	1	1	1	1	1	1	1	1	1	100.00%
U-40041	1	1	1	1	1	1	1	1	1	100.00%
V-40043	0	1	0	0	0	0	0	0	0	88.89%
W-40045	0	0	0	0	0	0	0	0	0	100.00%
% Class I	70.00%	80.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%	98.89%
% Class II	30.00%	20.00%	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%	n/a

0 = Class II
1 = Class I



II. Statistical Details:

2. Reproducibility of Burn Times: Average reproducibility (% CV) among labs was ~ 12%.

Pattern	Lab a	Lab b	Lab c	Lab d	Lab e	Lab f	Lab g	Lab h	Lab I	Average	std. Dev.	between lab.
AA-40053												
EE-40061												
HH-40015	66.1	65.9				97.9	52.7			61.6	7.68	
HH-400x1	21.3	22.8	22.1	24.1	24	26.1	25.1	24.7	24.9	23.9	1.55	
J-40019	49.2	39.3	38.8	41.3	41	48.7	60.7	44.8	39.4	44.8	7.15	
R-40035	33.8	34.7	37.7	37.9	37		46.1	31.8	34.9	36.7	4.32	
T-40040	84.1	82.2	77.6	79.1	93	78.1	94.9	70	83	82.4	7.73	
U-40041	71.4			71.3			66.6	50		64.8	10.13	
V-40043	23.6		18.9	19.5	20	16.9	17.2	19.9	22.9	19.9	2.39	
W-40045	17.2	21.5	22.5	20.4	21	21.6	23.1	20.4	25.7	21.5	2.30	
										44.45	5.41	12.2%

II. Statistical Details:

3. Repeatability of Burn Times: Average repeatability (% CV) within labs was 6.5%.

Pattern	Q-1	Q-2	Q-3	x	X'	d	S _x	S _R **	K _{calc} ^o	S _x /x	
AA-40053				n/a					#DIV/0!		
EE-40061				n/a					#DIV/0!		
H-40015	66.1	80.9	69.6	72.2	70.9	1.3	7.7	9.0	0.857537	10.7%	
HH-400X1	21.3	22.2	23	22.2	23.4	-1.2	0.9	0.9	0.988942	3.8%	
J-40019	49.2	58.4	51.6	53.1	44.4	8.7	4.8	4.6	1.037422	9.0%	
R-40035	33.8	34.5	31.1	33.1	35.2	-2.0	1.8	7.1	0.254662	5.4%	
T-40040	84.1	85	83.3	84.1	82.6	1.5	0.9	2.5	0.334839	1.0%	
U-40041	71.4	75.3	77.2	74.6	66.2	8.5	3.0	5.3	0.557908	4.0%	
V-40043	23.6	20.9	19.1	21.2	20.3	0.9	2.3	1.4	1.677741	10.7%	
W-40045	17.2	19.9	18.5	18.5	21.5	-3.0	1.4	0.5	2.547752	7.3%	
*	population mean (from all 9 labs)				absolute value average:				1.057038	6.5%	
**	population standard dev. (from all 9 labs)										



3

0

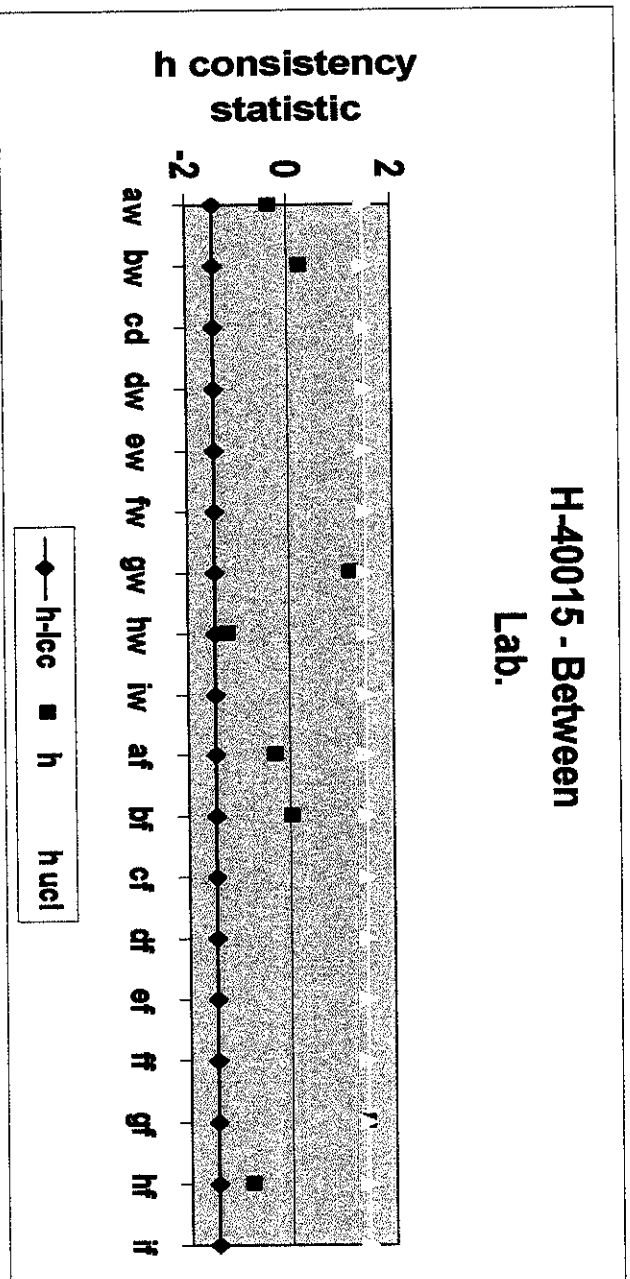
II. Statistical Details:

4. Repeatability of Burn Times: Average *k* value of 1.06.

Pattern	Q-1	Q-2	Q-3	x	X'	d	S _x	S _R **	K _{calc} ^o #DIV/0!	S _x /x	
AA-40053				n/a							
EE-40061				n/a							
H-40015	66.1	80.9	69.6	72.2	70.9	1.3	7.7	9.0	0.857537	10.7%	
HH-400X1	21.3	22.2	23	22.2	23.4	-1.2	0.9	0.9	0.988942	3.8%	
J-40019	49.2	58.4	51.6	53.1	44.4	8.7	4.8	4.6	1.037422	9.0%	
R-40035	33.8	34.5	31.1	33.1	35.2	-2.0	1.8	7.1	0.254662	5.4%	
T-40040	84.1	85	83.3	84.1	82.6	1.5	0.9	2.5	0.334839	1.0%	
U-40041	71.4	75.3	77.2	74.6	66.2	8.5	3.0	5.3	0.557908	4.0%	
V-40043	23.6	20.9	19.1	21.2	20.3	0.9	2.3	1.4	1.677741	10.7%	
W-40045	17.2	19.9	18.5	18.5	21.5	-3.0	1.4	0.5	2.547752	7.3%	
* population mean (from all 9 labs)										absolute value average: 1.057038	6.5%
** population standard dev. (from all 9 labs)											

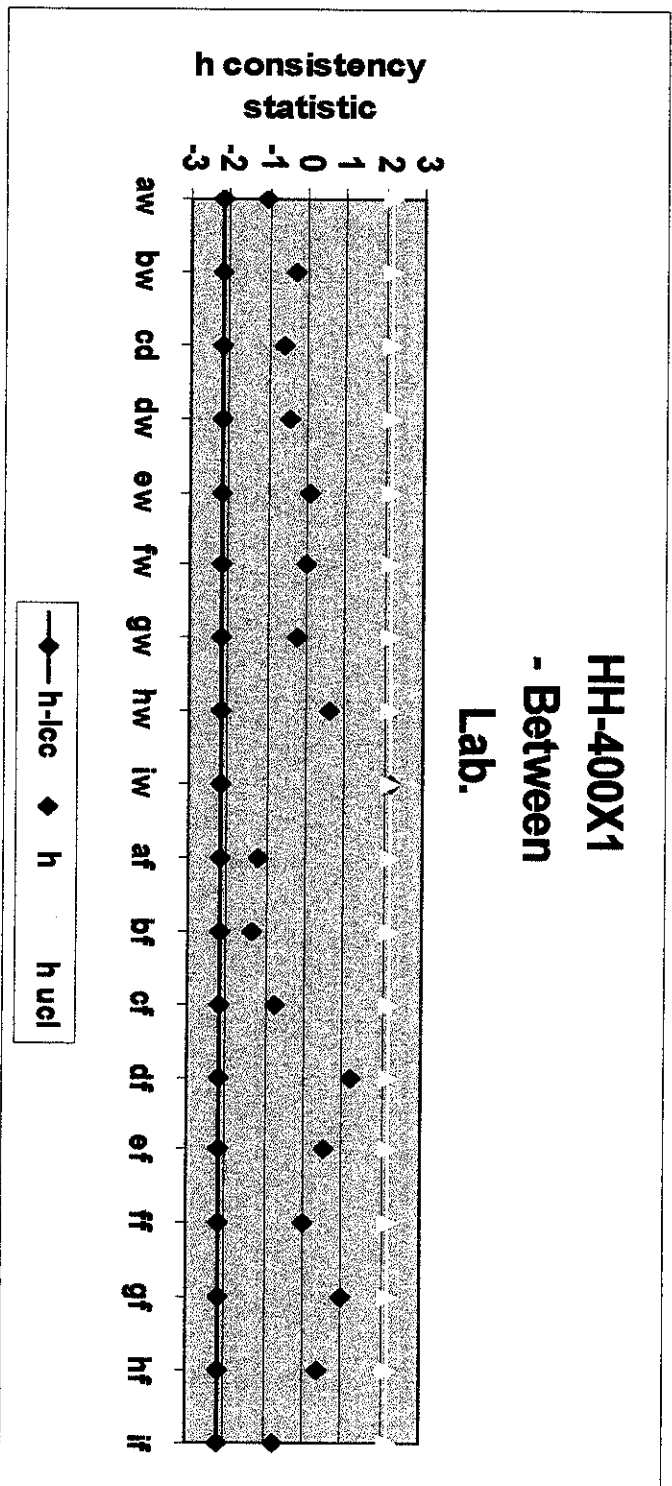
II. Statistical Details:

5. Reproducibility of Burn Times: 97.6% of calculated h values are below the *critical* h value.



II. Statistical Details:

5. Reproducibility of Burn Times: 97.6% of calculated h values are below the critical h value.

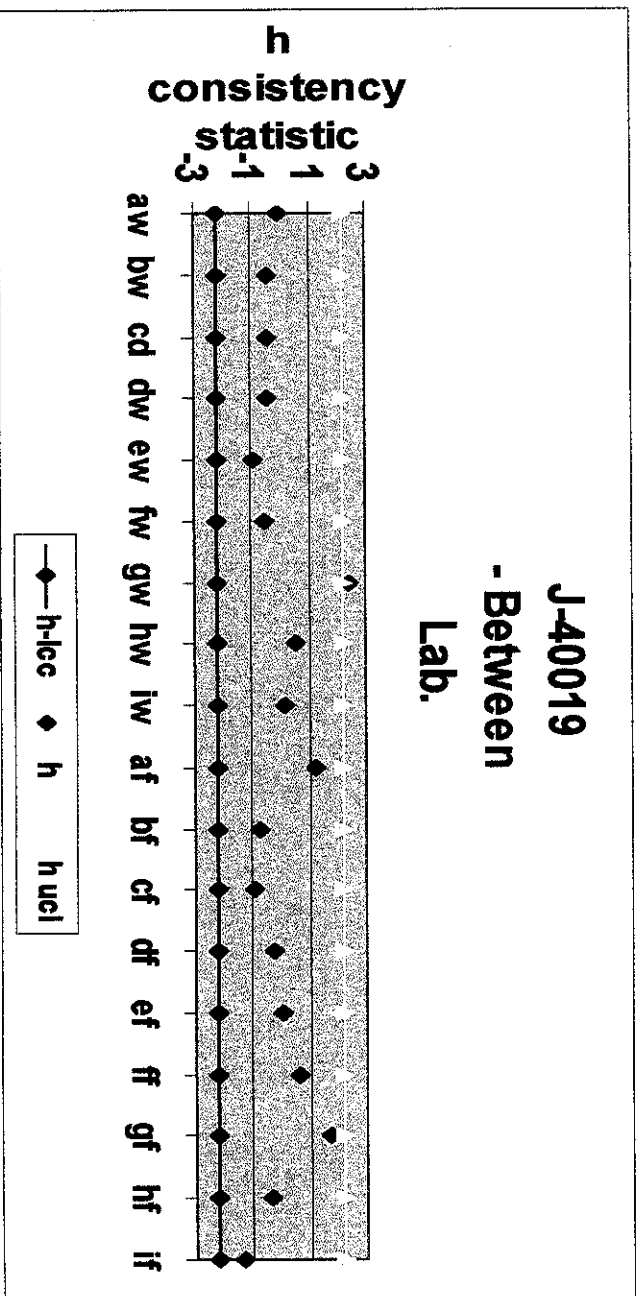


50

05

II. Statistical Details:

5. Reproducibility of Burn Times: 97.6% of calculated h values are below the critical h value.

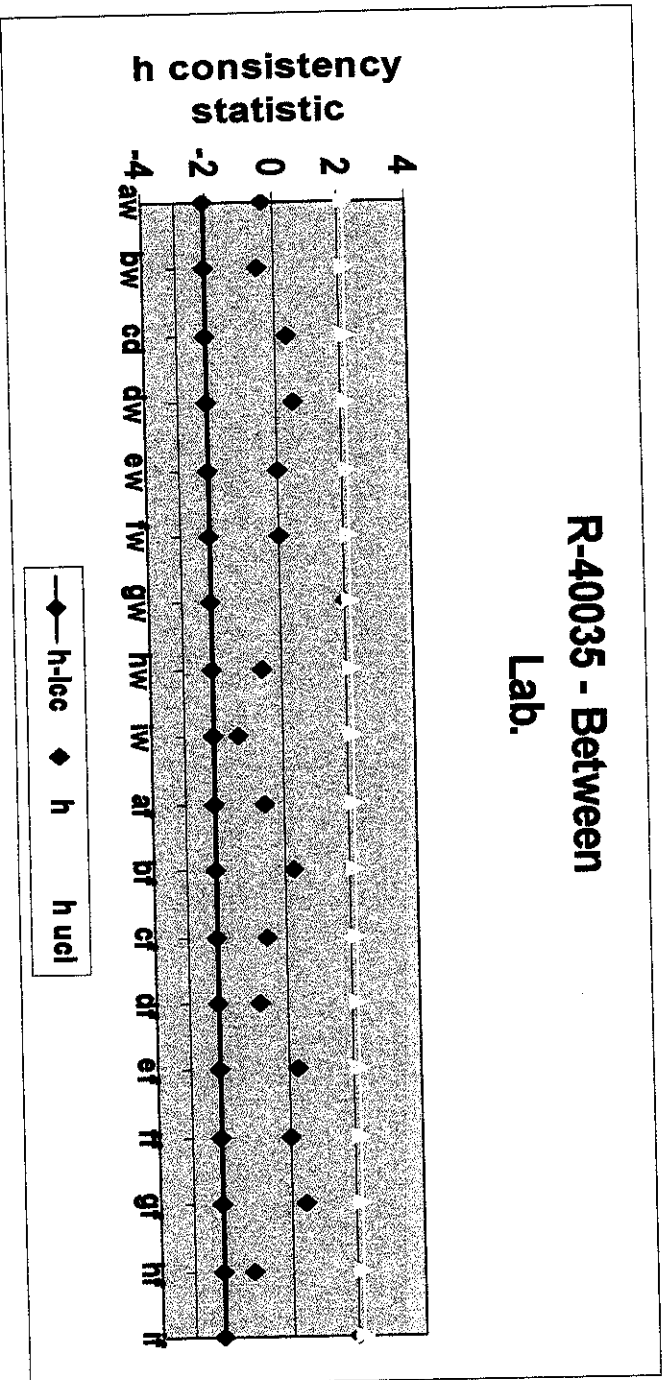


5

05

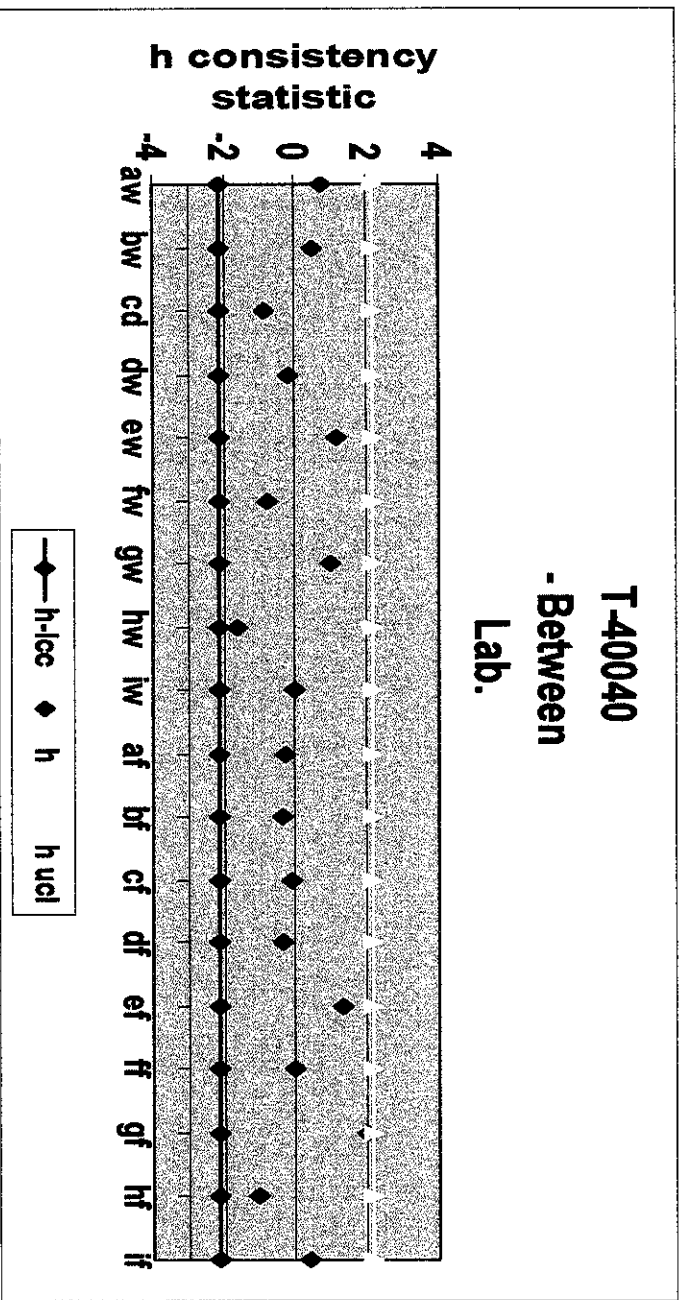
II. Statistical Details:

5. Reproducibility of Burnn Times: 97.6% of calculated h values are below the critical h value.



III. Statistical Details:

5. Reproducibility of Burn Times: 97.6% of calculated *h* values are below the *critical h* value.

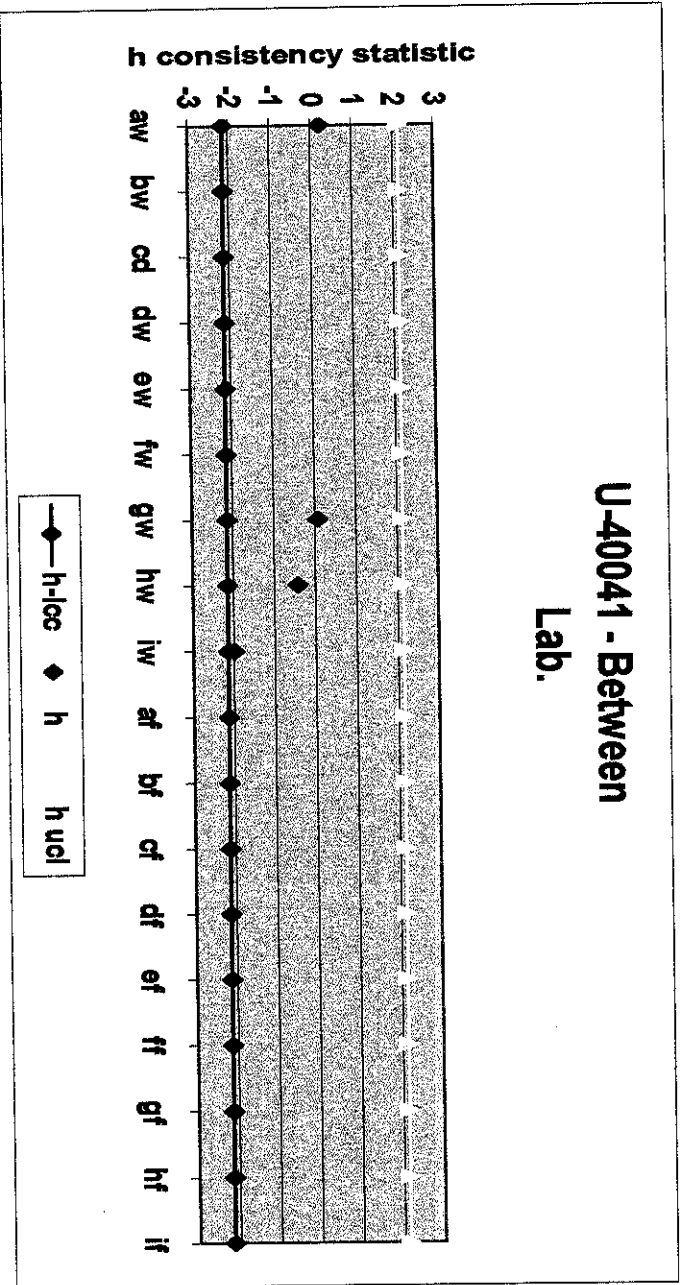


1

03

II. Statistical Details:

5. Reproducibility of Burn Times: 97.6% of calculated h values are below the *critical* h value.

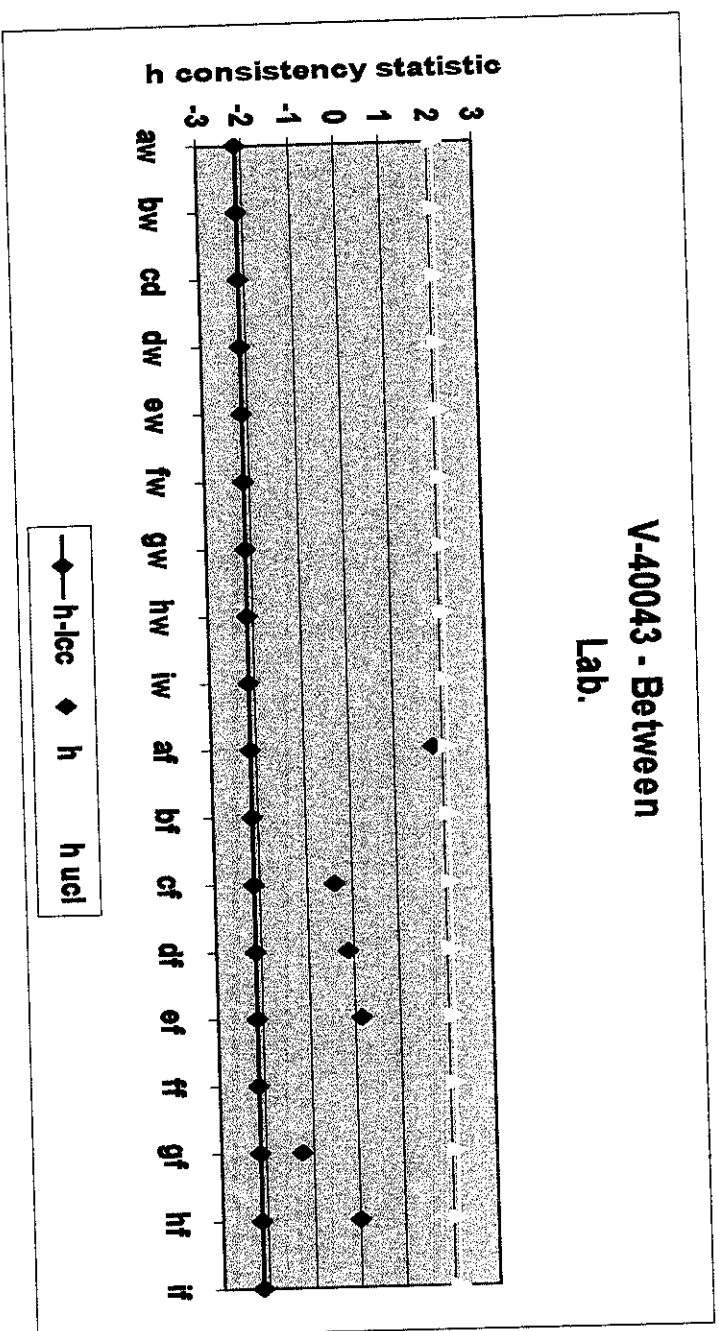


3

2

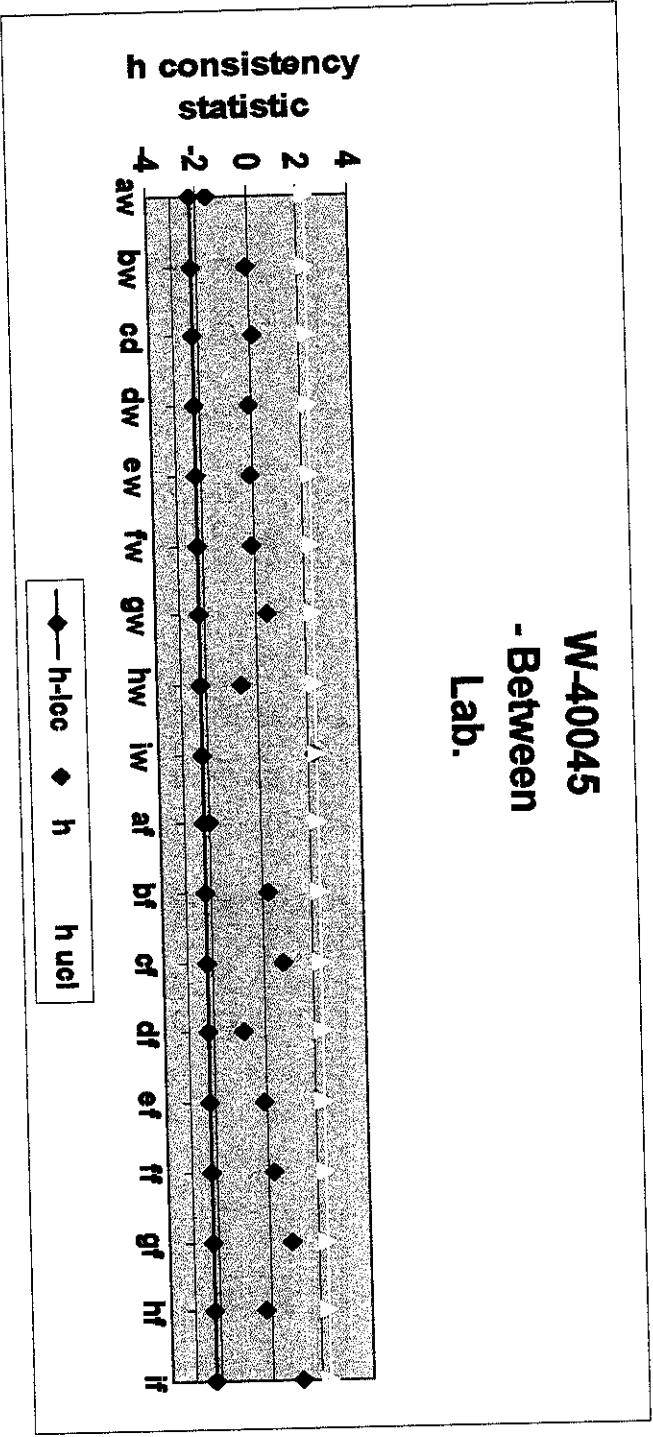
II. Statistical Details:

5. Reproducibility of Burn Times: 97.6% of calculated h values are below the critical h value.



II. Statistical Details:

5. Reproducibility of Burn Times: 97.6% of calculated *h* values are below the *critical h* value.



***III. Discussion & Data
Clarification:***