Procedural Review Voting Sheet
2011 Cycle 5

REGION: NA
COMMITTEE: PV Materials
EVENT: NA Fall Standards Meetings
DATE OF MEETING: October 26, 2011
PLACE OF MEETING: SEMI HQ, San Jose, CA
COMMITTEE CO-CHAIRS: Dick Hockett/Evans Analytical Group
SEMI STAFF: Kevin Nguyen

A&R Voter: Name/Company
Date: 200X/MM/DD

I. Document Number & Title

5096	New Standard: Test Method for the Measurement of Elemental Impurity Concentrations in Silicon Feedstock for Silicon Solar Cells By Bulk Digestion, Inductively Coupled-Plasma Mass Spectrometry

II. Tally (Staff to fill in)

Voting Tally: As-cast tally after close of voting period

A minimum of 60% of the voting interests that have voting members within the technical committee must return votes. (Regulations ¶ 9.6.1)

	Return		Distribution		Return Rate	
Yellow	35	÷	57	=	61.4%	>=60%
Lilac & Others	28					
Total Vote	63					
Reject	4					
Accept	19					

A&R	Not approved
	Reason:

III. Rejects

Reject 1 (Supika Mashiro /TEL)

Negative 1 of Reject 1

Negative	Referenced Section	1.3		
	Reason	This test method may be useful for analyzing the cause of failure but is no avail to evaluate failure or performance of solar cells. Metrics or specifications necessary for evaluation of failure or performance of solar cells are outside the scope of this test method.		
		Negative Delete the second sentence.		
Withdrawal		x	No withdrawal made	**GO TO "Related" section**
			Withdrawal document received by staff on XXXX	**GO TO "Final" → (A)**
Related	Motion and Reason		"Related" is mutually agreed upon.	
			***This motion can be appended to the motion for Persuasive (See Persuasive Section)**	
			Negative is related **(needs over 1/3 votes to pass)**	
			Negative is not related **(needs 2/3 or more votes to pass)**	
			Reason: XXXX	
	Motion by/2nd by	Name (Company)/Name (Company)		
	Discussion			
	Result of Vote (check ONE)	XX-XX		
			[Negative is related] > 1/3	**GO TO "Persuasive"**
			[Negative is not related] < 2/3	
			2/3=< [Negative is not related]	**GO TO "Final" → (B)**
Persuasive	Motion and Reason	x	Negative is related and persuasive **(needs over 1/3 votes to pass)**	
			Negative is related and not persuasive **(needs 2/3 or more votes to pass)**	
			Reason: .	
	Motion by/2nd by	Marty Burkhart (Hi Pure Tech)/ Win Baylies (Baytech Group)		
	Discussion			
	Result of Vote (check ONE)	12-0		
		x	[Negative is related and persuasive] > 1/3	**GO TO "Final" → (E)**
			[Negative is related and not persuasive] < 2/3	

			2/3=<[Negative is related and not persuasive] <90%	**GO TO "Final" → (C)**
			90% =< [Negative is related and not persuasive]	**GO TO "Not Significant Finding Option"**
Not Significant Finding Option	**This option can only be used "if the committee finds a negative not persuasive by a vote equal to or greater than 90% of the persons voting on the action". (Regulations ¶ 9.5.3.3.2)**			
	[redacted]		It is mutually agreed upon to term the negative "not significant"	**GO TO → (D)**
	[redacted]		It is mutually agreed upon to term the negative "significant"	**GO TO → (C)**
	Motion		The negative is "not significant".	
	Motion by/2nd by		Name (Company)/Name (Company)	
	Vote		XX-XX Motion passed with simple majority	**GO TO → (D)**
			XX-XX Motion failed with simple majority	**GO TO → (C)**
Final		Negative is:		
			(A) withdrawn (counted under **h** in disposition)	
			(B) not related (counted under **i** in disposition)	
			(C) related and not persuasive (significant)	
			(D) not significant (counted under **j** in disposition)	
		x	**(E)** related and persuasive	**DOCUMENT FAILS**
			Comment generated. See comment #x	
A&R		**Not approved**		
		Reason:		

Additional reject and comments are:

Name: * Supika Mashiro

Company: * Tokyo Electron

Reject

Doc. #	Item #	Section/ Line Item	Negative/Comment	Reason/ Justification	T/E

4675A	TEL-1	1.3	Negative Delete the second sentence.	This test method may be useful for analyzing the cause of failure but is no avail to evaluate failure or performance of solar cells. Metrics or specifications necessary for evaluation of failure or performance of solar cells are outside the scope of this test method.	T
4675A	TEL-2	1.5	Negative Paragraph 1.5 should be included in either the scope section or the limitation section.	What is covered in the Standard is described in the scope section. What is not covered in the Standard may be described in the limitation section.	T

Name: * Richard Hockett

Company: * Evans Analytical Group

Reject

Section 1.5 has an upper limit of detection of 10 ppmw for some elements. This LOD is too high to meet the Scope statement section 1.2.

Section 3.5 should include that molecular ion of Ar and Cl can interfere with detection of As.

Table 2 lists 40Ca for detection of Ca, but 40Ar from the Ar plasma makes this useless.

Section 16.5 non-detected elements should also be designated with a Limit of Detection, not just an asterisk, to be useful

Name: * Laszlo Fabry

Company: * Wacker Chemie AG

Reject

3.5 + 3.9 Identifying interferences is crucial for the results, assumed metallic interferences of Ca, Ti, Ni, Cu, Zn, V etc. with Si species must be precisely listed. Examples please find in Shabani's paper in Mater. Sci. Eng. B 2003, Vol. 102 pp.238-246

3.9 Pls correlate calib Tab 1 with "other isotopes" of Tab 2 and refer to DRC, CCT or HR instruments.

13.1.1 Pls call attention to well known matrix interferences with reference to Shabani's paper: V, Zn, Cu...60SiO2/Ni, 47 SiF/Ti, 44SiO/Ca etc.

SEMI_Doc_Comment sAug09_RHz_200908

Name: * Kkenji Sato

Company: * Japan Solar Silicon

Reject

The impurity elements tabulated for Certified Reference Material (CRM) in Table 1 of 8.3 differs from the measurement of elements tabulated in Table 2 of 13.1.1.
The elements tabulated in the Table 1 and Table 2 should be the same for accurate measurement. If the CRM is not obtained, the accurate measurement is impossible.

The measurement elements tabulated in the Table of this standard should be limited to the elements related to PV performance because this standard is limited for PV. The elements listed in SEMI PV17-0611 are suitable for this standard.

Name: * Shengyong Lu

Company: * Chemtrace

Abstain with comments

Section 5.2.10, Section 6.1.1, Section 6.1.2 and Section 6.1.3 all have a phrase "test test sample". I think that's a typo, and it needs to be revised to "test sample".

2. In Section 6.1.4, the sentence "Particles and ions are subsequently desolved, fully ionized ...." should be revised to something like " The aerosol generated are subsequently desolvated, atomized, partially ionized ...." because the degree of ionization is much less than 100% for many elements.

Name: * Kouichi Sakaguchi

Company: * **Toray**

Abstain with comments

6.1.3
Care must be taken about loss of some elements in the heating to dryness procedure. Typically, boron tends to evaporate with the existence of hydrofluoric acid.

Name: * Mark Camenzind

Company: * Air Liquide

Accept with comments

This draft still references Class 1000 cleanroom classification for particles per FS209E that has been obsoleted for a number of years, and has been replaced with: ISO/DIS 14644-1 (2010), Cleanrooms and associated controlled environments—Part 1: Classification of air cleanliness by particle concentration, Minor editorial change to keep up with current stds.

IX. Action for this document

Motion		This document passed committee review as balloted and will be forwarded to the A&R for procedural review.
		This document passed committee review with editorial changes and will be forwarded to the A&R for procedural review.
	x	This document failed committee review and will be returned to the task force for rework.
		This document failed committee review and work will be discontinued.
Motion by/2nd by		Marty Burkhart (Hi Pure Tech)/ Win Baylies (BayTech Group)
Discussion		None
Vote		12-0
Final Action	x	Motion passed
		Motion failed
A&R		**Approved**
		Not approved
		Reason: