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- Gulf Coast & ILAP '09 Conference Updates
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## '83' New CRMs Available from ARMI

Thanks to the considerable efforts of the ILAP members and Daniel Geist, ARMI has produced a record 83 new alloy CRMs in the 2008 and 2009 time periods. The breakdown is as follows: Carbon, Low Alloy Steel, and Tool Steels-15; Stainless and High Temperature Steels-22; Nickel Alloys-12; Copper, Brass and Bronze Alloys-15; and Titanium Alloys-19. A special "Wow" for titanium, as the titanium CRM suite has now greatly expanded. As always, the exact alloys, their status, and Certificates of Analysis can be

viewed and downloaded/printed from the ARMI website - [www.ARMi.com](http://www.ARMi.com).

For these types of metals, we think this is a record for CRM production for new alloys over a 2-year period. Replacement CRMs for existing ARMI alloys were included in this total. ARMI is very grateful for all of the effort expended by the ILAP members and Daniel to help meet the analysis needs of the metals industry. We appreciate not only the analytical work, but also the expert advice as to what alloys were needed.

## DC Arc Instrument Update - 2009

The new Teledyne Prodigy DC Arc Demo Instrument is now ready for demonstrations. If you are analyzing samples now by DC Arc book your demo today! If you have difficult ICP sample prep issues, please contact us. You'll be amazed by the ease and sophistication of this "best ever-by far" DC Arc instrument. It is equipped with reverse-polarity, great tools for easy method development (or method improvement), and ease-of-use features. You can't help but be impressed!

been fully integrated into the Prodigy DC Arc instrument. The software allows for rapid methods development because of wavelength scans, real time background correction, time resolved analysis, and much more.



The spectrometer being used is the same as that which anchors the Teledyne Prodigy ICP. This proven and reliable spectrometer combines a highly advanced Echelle optical system with the latest in solid-state detection. The newly-designed source and stand have



We will be attending and presenting a paper at the Canadian Mineral Analysts exhibition, (September 14<sup>th</sup>-17<sup>th</sup>), on Wednesday, September 16<sup>th</sup> in Winnipeg, Manitoba, Canada. This presentation, which details the methods used for analyzing minerals and metals for trace elements, is available upon request.

**Please contact us for further information.**



## Recently Certified Standards & New Alloys

We continually listen to our customers' requests and develop standards to meet their needs.

The following lists of CRMs have been certified since the last Newsletter:

### Carbon, Low-Alloy, & Tool Steels

IARM	Grade	UNS #	Cert.
155D	AISI 4820	G48200	Sep-09
155E	AISI 4820	G48200	Sep-09
182B	Alloy 86L20	N/A	Mar-09

### Stainless, & High-Temp. Steels

IARM	Grade	UNS #	Cert.
6F	AISI 321	S32100	Sep-09
6G	AISI 321	S32100	Sep-09
8E	AISI 347	S34700	Sep-08
21C	PH13-8Mo	S13800	Jan-09
289A	AISI 301	S30100	Nov-08
291A	M-152	S64152	Mar-09
294A	NMS J38	N/A	Feb-09
295A	NMS 140	N/A	Feb-09
296A	NMS MDC	N/A	Feb-09

### Copper, Brass, & Bronze Alloys

IARM	Grade	UNS #	Cert.
76C	CDA 485	C48500	Apr-09
184A	CDA 941	C94100	Apr-09
263A	Fed I-848A	N/A	Nov-08
264A	Fed 844	C89831	Nov-08
265A	Fed I-836	C89833	Nov-08
266A	Fed III-932	C89835	Nov-08
267A	CDA 947	C94700	Nov-08
278A	CDA 145	C14500	Nov-08
279A	CDA 182	C18200	Nov-08

### Nickel Alloys

IARM	Grade	UNS #	Cert.
52C	Alloy K500	N05500	Feb-09
277A	Alloy 800	N08800	Mar-09
69C	Alloy X	N06002	Jul-09
69D	Alloy X	N06002	Jul-09

### Titanium Alloys

IARM	Grade	UNS #	Cert.
174C	Ti CP1 (Gr. 4)	R50700	Sep-09
175C	Ti 6-4	R56400	Sep-09
177C	Ti 6-2-4-2	R54620	Sep-09
261A	Ti 3-2.5	R56320	Sep-09
262A	Ti 7-4	R56740	Sep-09
271A	Ti 5-2.5	R54520	Sep-09
280A	Ti 4-4-2	N/A	Sep-09
285A	Ti 6-2-1-1	R56210	Sep-09
286A	Ti 3-8-6-4-4	R58640	Sep-09
297A	Ti 10-2-3	R56410	Sep-09
311A	Ti CP-0.5Al (BT1-0)	(BT1-0)	Sep-09
312A	Ti CP4 (Gr. 1)	R50250	Sep-09
314A	Ti 5-5-5-3	N/A	Sep-09
315A	Ti 4-2 (PT3V)	(PT3V)	Sep-09

We also maintain a long list of re-issued and soon-to-certify materials. Please check out the **Material Status** section of our web site at: [www.ARMI.com](http://www.ARMI.com).

The following is a list of new alloys recently added to our line-up of standards and in the ILAP process:

### Stainless, & High-Temp. Steels

IARM	Grade	UNS#
301A	Alloy 2507	S32750
302A	Alloy 254SMO	S31254
316A	Alloy 253MA	S30815
317A	Alloy 2304	S32304
318A	Alloy 16-6-1.5-1.5	N/A
319A	Zeron 100	S32760
327A	Alloy 415	S41500

### Carbon, Low-Alloy, & Tool Steels

IARM	Grade	UNS#
281A	AISI T-4	T12004
299A	D6-AC	K22925
304A	AISI M-1	T11301
305A	NIT 135M	K24065

### Carbon, Low-Alloy, & Tool Steels (Cont'd)

IARM	Grade	UNS#
306A	AISI M-50	T11350
307A	AISI 1118	G11180
320A	AISI M-35	T11335
321A	Grade 722 Steel	N/A
322A	Grade 75S Steel	N/A
323A	Grade 420/60 Steel	N/A
324A	Grade M10 Steel	N/A
326A	Permendur 2V	R30005
330A	AISI 4330	G43300

### Nickel Alloys

IARM	Grade	UNS#
272A	Alloy 617	N06617
273A	Alloy C263	N07263
274A	Alloy 725	N07725
276A	Alloy C-22HS	N/A
282A	Alloy HR-120	N08120
283A	B1900	N/A
287A	Udimet 500	N07500
325A	Rene 41	N07042
328A	Alloy 945	N09945
329A	Alloy G-35	N06035

### Copper, Brass and Bronze Alloys

IARM	Grade	UNS#
284A	CDA 962	C96200
288A	CDA 963	C96300
293A	DHP Copper	N/A
298A	CDA 976	C97600
310A	CDA 907	C90700
313A	CDA 693	C69300

### Titanium Alloys

IARM	Grade	UNS#
300A	Ti 6-7	R56700

We are acquiring more Nickel based turbine alloys and odd-ball steel alloys. If you have a need for a specific standard, **please contact us.**

## CRMs, SUSs, and Check Standards

ARMI has long been a leader in providing quality Certified Reference Materials (CRMs). As everyone knows, CRMs are the "building blocks" in providing accurate and reliable calibrations.

ARMI now has readily available SUSs for virtually all metals -- all of the Steels, Cast Iron, Aluminum, Nickel, Cobalt, Copper, Brass, Bronze, Titanium, Magnesium, Tin, Lead, and Zinc. Set-Up-Standards (SUSs) are needed to keep the calibrations accurate over time. SUSs are an integral part of proper instrument operation by providing timely Drift Correction of the calibration curves.

ARMI can also provide appropriate Check Standards for most metal analysis applications. Check Standards will let you know when it is time to drift correct by using the SUSs. With the increasing demand for improved Quality Assurance, Check Standards are an effective and cost efficient way to keep instruments turning out accurate analyses.

Please contact us if you need information on how to keep your instrument accurate - all of the time! Our expertise and information are free, so let us help you maintain quality results, while saving you time and money.

## Gulf Coast Conference - 2009

The 105<sup>th</sup> meeting of the Gulf Coast Conference will be held Oct. 13-14 2009 at the Moody Gardens Convention Center in Galveston, Texas. The Gulf Coast Conference Program provides news and

technical/business information, which relates to the chemical, refining, and environmental professions. This is a very popular trade show in the Western hemisphere for the Chemical Industry.



## Gulf Coast Conference – 2009 (Cont'd)

ARMI will be exhibiting in **Booth 615**. Please stop by our booth to discuss all of your Certified Reference Material and sample preparation needs. If you have any technical problems concerning ICP, Optical Emission or X-Ray Fluorescence analysis, we will have experts attending that will be able to

help. We will also be introducing new products that will aid in the analysis of metals and petroleum products used by this industry.

This show is quite an event, please try to attend.

**So come by our Booth and see what's new!**

## Spectroscopy 101 – Autumn of 2009

We will be holding our very popular class on the fundamentals of Optical Emission (OE) near our facilities in Golden, Colorado, on October 20<sup>th</sup> and 21<sup>st</sup>. Topics to be addressed will include: technique theory, spectrometer theory, calibration, sample preparation, accuracy determination, results reporting, routine quality control, trouble shooting, maintenance, and much, much more!

These classes are aimed at instrument operators and laboratory supervisors. Practical experience is emphasized, with an initial overview of theory to provide a firm, fundamental foundation. You will be turned into an "OE Expert" in just one day!

We will gladly hold this school on other dates as well. Please specify a date that would meet your schedule and we will try to accommodate your request. We strongly suggest and prefer to hold the schools on Tuesdays or Wednesdays, so as to accommodate travel days.

We also have the flexibility to hold the class at your facilities on a date of your choosing. It is much less expensive if there are more than 2 attendees, because of travel cost savings.

**Please contact us for additional information, for possible different dates or to register.**

## The Best Practical AES Book for Spark Analysis – Ever!

Karl Slickers has written a new comprehensive scientific guide for all important practical aspects of spark analysis. It contains everything you need to know in order to get consistently accurate analyses. Although it addresses all forms of Atomic Emission Spectroscopy (AES) excitation, its real strength is for the analysis of metallurgical samples.

Karl has had a dedicated lifetime in this field. He worked for the leading instrument manufacturers

for well over 30 years, scientifically developing application methods for virtually every type of metal. Famous throughout the world, he has written books, presented dozens of scientific papers, and given numerous technical lectures.

Karl's 500+ page book is now in stock and available from ARMI.

**Please contact us for further information and pricing.**

## ILAP '09 Conference Review

ILAP '09 was held Jul. 23-24, 2009 at The Vail Plaza Hotel in Vail, CO. The meeting was well attended, and we would like to thank all of those who came and participated.



The topics of the meeting included an introduction to ICP-AES, as well as the common statistics involved with calibration and daily use.

We also reviewed and discussed the strengths and weaknesses of ICP-AES, DCP-AES, & DCA-

AES techniques, as they pertain to the metals industry.

We discussed the re-issue of our popular CLA calibration set, and the creation of a carbon/sulfur only chip standard; more news to follow later.



**If you would like to join our ILAP family, please contact us or email us at [ILAP@ARMI.com](mailto:ILAP@ARMI.com).**

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Please indicate your needs. When finished please FAX this form back to us at (303) 216-2649

**Catalog Type:**

- ARMI **General** Catalog
- ALCAN **Aluminum** Catalog
- Meinhard **Glass Products** Catalog

**Customer Classification:**

- Foundry / Producer / General Industry
- Commercial Lab
- Academia
- Other — (Please list in comments area)

**Please Respond:**

- I **need** your current catalog.
- I **need** information on ISO 17025 compliancy.
- I **need** information on Proficiency Testing (PT).

**Method of Analysis:**

- OE Spectroscopy
- XRF Spectroscopy
- ICP / ICPMS
- Other — (Please list in comments area)

Please **contact** me.

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Comments:

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**ISO 9000 Quick Quality Survey**

(Please write additional comments in block provided above. Thank You!)

- Product Quality:**  Excellent  Good  Fair  Poor
- Service Quality:**  Excellent  Good  Fair  Poor

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