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June 2006

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Next Issue Coming September 2006



*The NACE Portland Section Officers
wishes you an enjoyable and happy summer!*

NACE June 2006 MEETING

DATE: June 22, 2006

TIME: 11:30 AM

Presentation 1: Corrosion Sensors for Natural Gas Pipelines

Presenter: Bernie Covino, NETL-Albany

Presentation 2: Monitoring Corrosion as a Process Variable

Presenter: Juan Hernandez, Honeywell Corrosion Solutions

Place: NETL-Albany; Formerly Albany Research Center

Lunch: Provided by the NACE Portland Section E-mail Bernie at bernard.covino@netl.doe.gov to let him you are attending.

ID Your Metals and Alloys



Portable XRF (X-ray fluorescence) gun.

How can you be sure that the pipe fitting you just grabbed is the correct composition for corrosion resistance and/or mechanical strength? Well, one way is to use the Innox-X Systems Inc. Portable X-ray fluorescence gun. Jack Hanson, HMC Analytical Instrumentation presented the first part of the May NACE Portland Section Meeting. He gave a presentation that included use of the Portable XRF gun, its safety aspects, and a hands-on demonstration of alloy identification. In fact it can provide alloy composition and grade identification in seconds and can also do environmental analyses of elements such as lead and arsenic. In the demonstration part of the program, Jack successfully identified several nickel-base alloys and stainless steels. One big advantage of the unit is that it uses an X-ray tube rather than radioactive isotopes so it travels easier.

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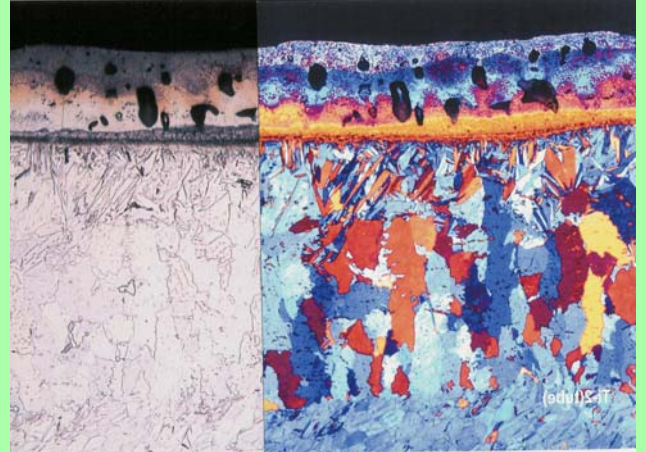
Inspections and Integrity Assessments

www.coastnde.com

The Power of Color Metallography

Micrographs are frequently used to understand microstructures of materials and are used to evaluate corrosion and to help with failure analyses of all kinds. Te-Lin Yau of the Te-Lin Yau Consultancy made the point that a good quality color micrograph can yield far more information than a non-color one. An example of a typical black and white photo is shown at left compared to color stained remainder of the same photo on the right.

One of the difficulties with black and white etches is that the only colors available to show gradations are black, white, and shades of gray. The right micro-



graph shows that when a metal is properly etched and color stained, it will bring out many more relevant features. In this example of a Ti microstructure, the stain more fully shows the nitride layer (band near the top of the photo). The oxide layer on Ti usually protects the metal against nitriding, but in this case it did not. Below the nitrided band the grains with different orientations and compositions are distinguishable by different colors. The different colors are due to differences in corrosion resistance to the etchant resulting in thicker or thinner oxide films. This technique works well for many alloy systems, especially the widely-used stainless steels.

Directions to NETL-Albany

From North : Get on I-5 South: to Salem, Albany; Merge onto OR-99E S / PACIFIC BLVD SE via EXIT 234B toward ALBANY; Keep RIGHT at the fork to continue on OR-99E S / PACIFIC BLVD SE.; Turn Right onto QUEEN AVE SW; LEFT at **NETL-Albany**; 1450 Queen Ave SW, Albany, OR 97321

Check Upcoming NACE Courses at:

<http://www.nace.org/nace/content/Education/courses/CourseSchedule.asp>

Coast to Coast NDE Training Schedule www.coastnde.com

June 19 - 21 - Magnetic Particle Level I & II
June 22 - 23 - Liquid Penetrant Level I & II
June 19 - 23 - Ultrasonics Level I
June 19 - 21 - Pipeline Integrity and Soils

June 26 - 28 - Magnetic Particle Level I & II
June 29 - 30 - Liquid Penetrant Level I & II
June 26 - 30 - Ultrasonic Level II

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ATI Wah Chang Courses www.wahchangelabs.com

For Questions: Steve Sparkowich steve.sparkowich@wahchang.com

Date	Title
July 18-20, 2006	Reactive Metals 2006 Welding Seminar
August 1-3, 2006	Reactive Metals 2006 Welding Seminar
October 6, 2006	The Fundamentals of Titanium Workshop

Awards Corner

Your Awards Chairman needs YOUR help in bringing recognition back to Local Section members. For the coming year, please nominate someone (even yourself) or some company that you think has done some outstanding work for the Western Area NACE awards (eg, Engineer of the Year, Stratfull Service Award, Company of the Year, Ted Harrington Scholarship) and/or the NACE International awards (eg, Technical Achievement, Distinguished Service, Fellow, Distinguished Company, etc). Check out the following link for more information on NACE Association awards and then contact Bernie at bernard.covino@netl.doe.gov with your ideas on awards.

<http://www.nace.org/nace/content/awards/summaryindex.asp>

NACE Foundation Student Academic Scholarships:

The NACE Foundation will Award Academic Scholarships to deserving students around the world. These scholarships are targeted at students (both graduate and undergraduate) interested in pursuing an education in the field of corrosion science and engineering. If you know of a student who qualifies for any of these scholarships (must be a NACE student member), we strongly urge you to have them apply.

Membership Corner ~ Invite a Friend to Join NACE ~

Individual membership \$130 for one year, \$250 for two years.

Applications: <http://www.nace.org/nace/content/Membership/ContentMembership.asp>

Access to the NACE International Member's Only Website that includes:

Unlimited downloads of Current NACE Standards

Unlimited downloads of Current NACE technical reports

Unlimited downloads of NACE conference papers six months old and older back to 1996

Access to K-NACE – interactive electronic books and COR*SUR database

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Soliciting News from NACE Portland Section Members

Send news about your activities, photographs of activities, and/or unique corrosion related phenomena to share with the NACE Portland section members for the September 2006 to June 2007 Issues. Retirees send news about the way things use to be done. Thanks Bernie & Sophie