

CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES

NONCONFORMANCE REPORT

Project No. 20.06002.01.031

NCR No. 2004-22

PART 1: DESCRIPTION OF NONCONFORMANCE

In accordance with procedure QAP-001, paragraph 3.2.2, initial entries are to include objectives of the task, the proposed approach or procedure for achieving the objectives and address any special training or qualification requirements. The initial entry in Scientific Notebooks 605, 675, and 678 do not contain this information.

Attached is the first page of the notebook.

Initiated by: Mark R. Ehnstrom

Date: 10/18/2004

Action Required by: L. Yang

Response Due Date: 11/01/2004

PART 2: PROPOSED DISPOSITION AND CORRECTIVE ACTION

Disposition:

Information to be added.

Basis of Disposition:

Repeat to requirement 2003-11/29/04

Action to Correct Nonconformance:

Required information was added to the initial entry section of the notebooks. (See attached)

Target date for completion: 11/21/04

Proposed by:

L. Yang

Date:

11/21/04

PART 3: APPROVAL

Manager:

[Signature]

Date:

11/29/04

Director of QA:

[Signature]

Date:

11/29/04

Comments/Instructions:

PART 4: CLOSE OUT

Comments:

see attached copies of modified entries

Distribution:

Original-CENTER QA Records

ORIGINATOR *M. Ehnstrom*

PRINCIPAL INVESTIGATOR *L. Yang*

MANAGER *V. Jain*

DIRECTOR *B. Sagar*

Verified by:

[Signature]

Date:

11/29/04

605 New Entry -

Initial Entries:

This is the continuation of Scientific Notebook # 549.

Title:

Study of Localized Corrosion of Zircaloy-4 cladding materials

Equipments:

Coupling Currents from probes will be measured with the Keithly 2182 nanovolt meter and Keithley 7001 Mainframe Switch. These instruments will be used to measure the potential of the electrodes.

Software:

In-house developed visual basic code was used to control the two Keithley meters and to store the data in a computer hard drive. The visual basic code was verified (see page 45, Scientific Note Book # 423).

Test equipment calibration, accuracy, and precision requirements:

The two Keithley meters and the visual program were verified on a regular basis. The latest verification was performed on 8/26/2004. See page 294, Scientific Note Book # 604 for details.

Names of the individuals performing the activity:

Lietai Yang and Brian Derby (signature see back of cover page of this book)

Objectives and the proposed approach or procedure:


Pitting corrosion of Zr-4 materials at different potentials

Special personnel training or qualification requirements:

None

Material/chemical:

Varies (see in-progress entries).


u/b/af

Initial Entry:

This book is the continuation of Book #
549. for Zircaloy-4 localized corrosion
tests.

Liekai Yang J. Yang J.Y.

All electronic data files are stored
in NoteBooks / NoteBook # 549 & 605 Zr-4.

J. Y.

11/17/03

Initial Entries:

This is the continuation of Scientific Notebook # 604.

Title:

Microbially Influenced Corrosion of Container Materials

Equipments:

Coupling Currents from probes will be measured with the Keithly 2182 nanovolt meter and Keithley 7001 Mainframe Switch. These instruments will be used to measure the potentials of the electrodes and the currents from the coupled multielectrode sensors

Software:

In-house developed visual basic code was used to control the two Keithley meters and to store the data in a computer hard drive. The visual basic code was verified (see page 45, Scientific Note Book # 423).

Test equipment calibration, accuracy, and precision requirements:

The two Keithley meters and the visual program were verified on a regular basis. The latest verification was performed on 8/26/2004. See page 294, Scientific Note Book # 604 for details.

Names of the individuals performing the activity:

Lietai Yang, and Roger Dykstra, Geri Becker and Stuart Birnbaum (All signatures are in the back of cover page of this book).

Objectives and the proposed approach or procedure:

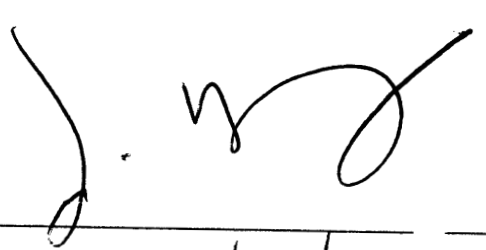
Microbially influenced corrosion of alloys in solutions containing different microbes.

Special personnel training or qualification requirements:

None

Material/chemical:

Varies (see in-progress entries).


11/21/04

#675

1

This book is a continuation of
Book # 604 for Microbially Influenced
Corrosion Studies

L. Y.

8/10/04

August 27, 2004 9:00 AM

Prepared 1.5 L Difco Marine broth media (Difco 2216)
for immersion test utilizing two *Pseudomonas* bacteria:

Ps. Stutzeri (ATCC 14405) and *Alteromonas haloplanktis* (ATCC
14393). Twenty mL of media was decanted into each
of 70 25mL Vials and capped with Hungate caps. Hungate
caps contain a septum that permits inoculation and fluid
exchange using a needle and syringe.

The tubes were transported to UTSR to autoclave
the media.

Difco 2216 Marine Broth media calls for 37.4 g/L
H₂O. To prepare 1.5 L, 56.1 g of powder was used. Fifteen
mL of 100X J-13 water (prepared by RJD 4/14/04) was
used to simulate J-13 chemistry in final media. 1,485 mL of
DI water completed the media solution. An HP 20S calculator
was used for calculations. Ended 12:00 PM ~~8/27/04~~ 8/27/04

8/27/04 3:00 p.m. MKS.

Sample solution from Vessel A, B, C using
aseptic technique. Replace volume of solution
removed with sterile media appropriate for
each vessel. Invert solutions for temperature,
pH, Klett turbidity, and sulfide concentration.

10/3/04

8/27/04

#678 New Entry

Initial Entries:

This is the 5th Scientific Notebook for the IR&D project (#20.R9209).

Title:

Development of Coupled Multielectrode Array Sensors for Localized Corrosion

Equipments:

Coupling Currents from probes will be measured with the Keithly 2182 nanovolt meter and Keithley 7001 Mainframe Switch.

Software:

In-house developed visual basic code was used to control the two Keithley meters and to store the data in a computer hard drive. The visual basic code was verified (see page 45, Scientific Note Book # 423).

Test equipment calibration, accuracy, and precision requirements:

The two Keithley meters and the visual program were verified on a regular basis. The latest verification was performed on 8/26/2004. See page 294, Scientific Note Book # 604 for details.

Names of the individuals performing the activity:

Lietai Yang

Objectives and the proposed approach or procedure:


Using multielectrode approach to measure the localized corrosion rate

Special personnel training or qualification requirements:

None

Material/chemical:

Varies (see in-progress entries)


11/21/04

Initial Entry

This is the 5th notebook for
Project #20. IR 9204.

Refer to page 1 of Notebook
#423 for initial entry;

Note:

All electronic data files are
stored in folder:

Notebooks / Notebook 417 & 552 - IRD-3 & 4

and/or:

Notebooks / Notebook 678 - IRD-5

L-yo

10/1/04