



# CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES QUALITY ASSURANCE SURVEILLANCE REPORT

PROJECT NO.: 20.06002.01.031

REPORT NO.: 2004-07

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SURVEILLANCE SCOPE: Corrosion Science and Process Engineering activities including: Container Life and Source Term July 2003-March 2004

REFERENCE DOCUMENTS: QAP-001, Scientific Notebook Control, QAP-002, Review of CNWRA Documents, Reports and Papers, QAP-004, Surveillance Control

STARTING DATE: 04/19/04

ENDING DATE: 04/29/04

QA REPRESENTATIVE: Mark R. Ehnstrom

*Sagar*

PERSONS CONDUCTING TEST/EXAM/ACTIVITY: V. Jain, D. Dunn, <sup>L</sup>Y. Yang, Y. Pan, K. Chiang, B. Derby, and R. Dykstra

**SATISFACTORY FINDINGS:** The Quality Requirements Application Matrix (GRAMs) applicable to the Container Life and Source Term and Corrosion Science activities was reviewed and a discussion was held with V. Jain, the Element Manager, to further define current project activities and staff members responsible for those activities. Additional discussions were held with Y. Yang, Y. Pan, K. Chiang, and D. Dunn regarding specific project activities

Laboratory Activities:

Laboratory activities concerning the Vapor Phase Corrosion test setup were discussed with B. Derby and R. Dykstra. These tests did not use controlled measuring and test equipment. This was brought to the attention of the principal Investigator, who responded with the following actions:

- The data acquisition system was verified (i.e., calibrated) using a certified voltmeter, (Keithley S/N55368, calibrated on 4/23/04, due 4/23/05).
- A step by step description of the process performed for assuring accuracy of the data acquisition system was recorded in Scientific Notebook No. 533.

Corrosion Science and Process Engineering Deliverable Reviews - The following document (the only milestone delivered this fiscal year) was reviewed and determined to be compliant with QAP-002 requirements:

- Review of the U.S. Nuclear Regulatory Commission Office of Nuclear Material and Safety and Safeguards of the U.S. Department of Energy Agreement Responses Related to the Proposed Geologic Repository at Yucca Mountain, Nevada: In-Drift Chemical Environment-Related Agreements Under Key Technical Issues "Container Life and Source Term"

Software Status:

The surveillance identified two codes in use; ESP/CSP/StreamAnalyzer and THERMOCALC. Both of these codes are listed on the CNWRA Master Directory of Scientific & Engineering Software and have been through the validation process.

Scientific Notebooks:

Each individual contacted during the surveillance was instructed to close-out notebooks that are not being currently used. Scientific Notebooks reviewed during this surveillance were: 498,533,571,577, 578, 602,605, 607,611, 617, 637, and 638.

UNSATISFACTORY FINDINGS: None  
NONCONFORMANCE REPORT NO.: N/A  
CORRECTIVE ACTION REQUEST NO.:N/A

ATTACHMENTS: None

RECOMMENDATIONS/ACTIONS: A surveillance will be performed at the conclusion of the Vapor Phase Corrosion tests to verify calibration of the data acquisition system at the end of testing.

APPROVED: *Mark R. Ehnstrom*  
CENTER DIRECTOR OF QUALITY ASSURANCE

DATE: *May 3, 2004*

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CNWRA QA DIRECTOR  
ORIGINATOR  
PRINCIPAL INVESTIGATORS: L. Yang, D. Dunn, Y. Pan, K. Chiang  
ELEMENT MANAGER: V. Jain  
B. Sagar