GEOSCIENCES AND ENGINEERING DIVISION
QUALITY ASSURANCE
SURVEILLANCE REPORT

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SURVEILLANCE SCOPE: CNWRA Corrosion Science and Process Engineering (CSPE) activities

REFERENCE DOCUMENTS: QAPs-001, 005, 007, 008, 013, and 019; AP-001; TOPs-012 and 018

START DATE: 10/30/06	END DATE: 11/03/06	QA REPRESENTATIVE: Mike Simpson

PERSONS CONDUCTING ACTIVITY (persons contacted): Yi-Ming Pan (Acting Manager), Xihua He (PI), Ken Chiang, Leitai Yang, Andy Jung, Darrell Dunn (Division 18), Albert Faz (18), Jessica Auguste (student). Checked qualification, training, and conflict of interest (COI) records only: Pavan Shukla, Stuart Birnbaum (consultant), Geri Becker (consultant)

SATISFACTORY FINDINGS:
Observations:

Discussions were held with the CSPE Acting Manager, the PI, GED staff, and one student intern. Programmatic elements assessed included work planning in Quality Requirements Applications Matrices (QRAMs); scientific notebook control; software control; sample control; control of measuring and test equipment (M&TE); document control; and the status of personnel qualification, training, and COI.

This group concentrates most of its work in Degradation of Engineered Barriers (canister and drip shield) laboratory experiments and review of DOE activities in that subject area. Observed experiments included humidity (deliquescence) testing, high-temperature corrosion (from dust), microbial influenced corrosion, and stress corrosion cracking. Also reviewed preparations for the upcoming "integrated test."

A QRAM has been completed for this activity and it appears to accurately reflect the observed work.

Scientific notebooks appear to be generally comprehensive, well-maintained, readily available, and reasonably secure (reviewed #s 744, 815, 718, 670, 771, 796, 768, 732, 659, 637, 615, and 675).

Software in recent use is under appropriate control.

Sample controls appear to be generally acceptable. One potential quality improvement suggestion is offered below (see Recommendation 1).

Numerous M&TE was checked for calibration status. All equipment in use had appropriate calibration labels. However one potential problem with equipment that undergoes "performance verification" rather than calibration is discussed below (see Recommendation 2).

Control of chemicals appears to be satisfactory.

Personnel qualification, training, and COI is up to date for listed personnel.

UNSATISFACTORY FINDINGS:

Four obsolete hard-copy procedures were inserted (not attached) at the back of a laboratory notebook. The procedures were not marked as being superceded, as required by QAP-008, *Document Control*. However, the situation appeared to be an isolated oversight (quite possibly the procedures had been at the back of this notebook since they were current and before the widespread use of electronically controlled procedures). The PI immediately recognized that hard-copies of procedures are no longer normally maintained in the lab and that those in question should have been previously destroyed or appropriately labeled. The procedures were immediately discarded. No additional corrective action is warranted.

NCR NO.: None	CAR NO.: None

ATTACHMENTS: None

RECOMMENDATIONS/ACTIONS:

1. No procedural requirement for the archival retention of tested mechanical samples (as opposed to "as received" samples) exists, nor is the archival task identified in scientific notebooks. At present, used samples are stored in an unmarked cabinet, with no notation of their location recorded or maintained. Subsequent retrieval of such samples would be difficult without recourse to laboratory personnel. (Note as well that during the surveillance the cabinet door was stuck and could not be opened by the PI). It is recommended that management consider the need for continued archival maintenance of used samples. If such a need exists, the process should be included in TOP-012, *Identification and Control of Samples and Chemical Reagents and Standards.*

2. Background information: One piece of M&TE was not labeled as to its calibration status. A humidity chamber that undergoes "performance verification" prior to use had no label to this effect. The equipment was not in use during the surveillance and had undergone successful performance verification prior to its last use (as documented in the scientific notebook) so this issue does not affect reported work. Since QAP-019, *Control of Measuring and Test Equipment*, does not require labeling, there is no procedural nonconformance in this instance. It is also very likely that this particular piece of equipment had in fact been labeled during its recent use but that the label had subsequently been removed or fallen off. The PI agreed that the equipment is usually labeled and that the label for the next performance verification would be retained.

The reviewer believes that it is the intent of both laboratory personnel and GED management that M&TE be continually labeled as to its calibration status and that such is a proper practice to help assure that out-of-calibration equipment is not used. It is therefore recommended that QAP-019 be revised to specifically require labeling of M&TE.

APPROVED: RQ Brewer DATE: 11/6/06	DISTRIBUTION: ORIGINAL—QA RECORDS DIRECTOR, QA ASSISTANT DIRECTOR: Mohanty MANAGER: Pan PRINCIPAL INVESTIGATOR: He