



**GEOSCIENCES AND ENGINEERING DIVISION
QUALITY ASSURANCE
SURVEILLANCE REPORT**

PROJECT NO. 06002.01.292,
294, 302, 312, 314

REPORT No.: 2007-14

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SURVEILLANCE SCOPE:

CNWRA Geology and Geophysics (GLGP) activities; General Information (GI), Volcanic Disruption of Waste Packages (VDWP), and Airborne Transport of Radionuclides (ATR).

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

START DATE: 5/14/07

END DATE: 5/21/07

QA REP: M. Simpson

PERSONS CONDUCTING ACTIVITY (persons contacted):

J. Stamatakos (Mgr.), L. McKague (GI PI), N. Adams (VDWP PI), D. Hooper (ATR PI), D. Waiting, D. Basu, S. Biswas, P. Dulbreuilh, D. Sims, D. Bannon

SATISFACTORY FINDINGS:

General Observations:

Discussions were held with the GLGP manager, PIs for the three major activities, and associated staff. Reviews of personnel qualification and training records, scientific notebooks, software status, sample control, and field trip preparations were conducted. No significant problems were identified and GLGP activities appear to be generally meeting their goals and requirements. Two isolated and quickly rectified issues are discussed in Unsat. Findings. An additional Unsat. Finding resulted in the issuance of a nonconformance report (NCR); see below. One Recommendation is also offered; see below.

Scientific notebooks reviewed include 758E, 870E, 825E, 842E, 821, 820E

Software status was reviewed for OLYMPUS DISS v1, OASIS MONTAJ v6.3.1(6g), GM-SYS v.4.8.45b, MFIX v2005-4, ArcGIS v9, ArcView v3.2&3.3, ArcInfo v9 (NCR 2007-15 issued; see below).

Discussion with NRC of review strategies for the upcoming license application is a significant on-going overall GLGP activity. In addition:

GI:

Work on the Yucca Mountain Field Trip Guide continues. Updates have been incorporated after each of the three NRC/CNWRA field trips. The third trip was recently concluded and the draft Guide is now scheduled for submittal this summer. As with the first two field trips, the most recent trip included twenty staff members, ten each from NRC and CNWRA. From all reports, the trips have been very successful; both in the instructional sense and as an opportunity for interaction and integration between the two staffs. An NRC senior manager that participated in the recent trip characterized it as "excellent" in a recent internal communique. The next trip is scheduled for September. One Recommendation in this area is included below.

The Tectonic Summary Report was accepted by NRC, with comments. Comment resolution is being

finalized and the report will be resubmitted in the near future.

The Olympus database of mapping information has been reviewed and consolidated, with Division 7 assistance. The database had grown into a general, somewhat unorganized, repository of GED archival information; i.e., sort of a dumping ground for all mapping work. Its contents have now been analyzed for appropriateness and segregated into CNWRA and DEMPS categories. The CNWRA material will be submitted to the LSN.

Work on aeromagnetic survey anomalies continues with a review of DOE's Volcanic Hazard Assessment and modeling. Now incorporating NRC comments of a recently submitted report. Follow-up modeling is expected.

The Yucca Mountain stratigraphic correlation chart was accepted by NRC. Minor, mostly cosmetic, changes requested by NRC are being incorporated.

A report on the neotectonic setting of Forty Mile Wash was submitted to NRC in January. The report was accepted and is now in comment resolution. A related conference abstract and poster are planned.

TPA User Guide, Chapter 13 was submitted last month; waiting for NRC comments.

A new GI project involving interactive maps and imagery has been proposed but not yet approved.

An IR&D proposal with Division 14 was recently presented and is currently under review. It involves automated groundwater spectroscopy instrumentation.

An upcoming lunchtime seminar on the status of foreign nuclear waste repository activities is upcoming.

VDWP:

Work on TPA User Guide, Chapter 14 and TPA validation continues.

Two recent sampling trips to Lathrop Wells, NV were recently concluded. Appropriate trip planning was performed. Rock samples were collected and shipped to Building 51, where space has been assigned for upcoming experimentation. Samples were appropriately labeled and handled. A balance was procured and calibrated. A formal field notebook was not maintained during the sampling activities. The PI's intention was to transfer information from informal notes into an electronic notebook upon return to SwRI; indeed, the transfer was occurring during the surveillance. While this practice can loosely be interpreted as being in compliance with requirements for notebook compilation while work is in-process, it is not the preferable method. For future sampling work, the PI has agreed to either keep a formal field notebook or transfer informal notes into an electronic notebook each evening.

A report reviewing three EPRI reports was submitted in January. EPRI comments are being evaluated.

Current ACNW interaction includes meetings (including a one-week meeting), response to comments, and supply of requested information.

Software suitability research activities are in process.

Staff are reviewing consultant papers on wet basalt eruptions (Cambridge U.) and steady state interactions (Bristol U.).

Experiments on Alloy 22 interactions with melted igneous rock continue.

ATR:

Lab work has been temporarily halted with the departure of a student assistant. The lab notebook has been turned over to the PI who is in the process of interviewing for a replacement. The lab is also been reconfigured at present. The expected new hire will also probably be involved with radar mapping comparisons.

TPA User Guide, Chapter 16 work is ongoing and is expected to be submitted to NRC next month. Code investigation for TPA is also progressing.

UNSATISFACTORY FINDINGS:

- 1) A "read and understand" acknowledgment of a procedure revision had not been received from one staff member despite several reminder notices. The required training was completed during the course of the surveillance and the reviewer is satisfied that the employee is sufficiently versed on the requirements of the procedure.
- 2) One staff member's first two scientific notebooks (since hire) did not contain necessary initial entry information nor were corrections being made appropriately. Both notebooks are in their beginning stages of development. Additionally, some informal notes contained information that should probably have been in a formal notebook. The employee readily accepted instruction and agreed to reread the procedure and make the necessary notebook changes.
- 3) An uncontrolled version (v.9) of software program ArcInfo is in use for GI activities. NCR 2007-15 has been initiated to address this situation.

NCR NO.: NCR 2007-15

CAR NO.: None

ATTACHMENTS: None

RECOMMENDATION:

Even as a draft document, NRC is utilizing the Yucca Mountain Field Trip Guide as a training tool for all staff (not only those making a trip). Suggest doing the same at CNWRA. Note, this is a reiteration of a previous recommendation.

APPROVED:



DATE: 5/3/2007

DISTRIBUTION:

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