



CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES QUALITY ASSURANCE SURVEILLANCE REPORT

PROJECT NO: 20-5704-13x

REPORT NO: 95-18

PAGE 1 OF 2

SURVEILLANCE SCOPE: General review of Regional Hydrogeologic Processes of the Death Valley Region Research Tasks for compliance with QA Program requirements.

REFERENCE DOCUMENTS: Project Plan for Regional Hydrogeologic Processes of the Death Valley Region; Program Manager's Periodic Report (PMPR), Period 02; QAP-001, Scientific Notebook Control, and QAP-004, Surveillance Control.

STARTING DATE: 11/29/95

ENDING DATE: 1/8/96

QA REPRESENTATIVE: Bruce Mabrito (Note that this surveillance was begun by R. Folck from the SwRI QA Department/cc30 when he established the surveillance schedule and was completed by B. Mabrito. The change was made in response to CNWRA budgetary/funding adjustments. Due to the travel of some individuals and the holiday schedule, the surveillance took longer than originally anticipated.)

PERSONS CONDUCTING TEST/EXAM/ACTIVITY: G. Wittmeyer (PI), D. Ferrill, K. Spivey, D. Turner, R. Klar, and W. Murphy

SATISFACTORY FINDINGS: The most recent PMPR was consulted to identify current activities in the Regional Hydrogeologic Processes project. Discussions were held with the Principal Investigator to review activities, identify other personnel involved, and to verify the QA requirements applicable to the specific activities. Results are as follows.

5704-131: Peer review process: Collect and analyze data and existing models. This phase has been closed out. Only ARC/INFO has been used as the database software. Data that has been used has been from the USGS and has been so identified as such in CNWRA reports. Scientific notebook No. 114 was reviewed and met the basic requirements of QAP-001.

5704-132: Construct alternative conceptual models of key hydrogeologic pressures in the Death Valley Region of the Western Great Basin. There was software used to produce two maps only, and they were displayed in the CNWRA Semi-Annual Report and in the CNWRA 95-009 Report. The software used was "a series of little codes" (unnamed, and not further developed). The data used was from the USGS and where it was used it was clearly identified.

5704-133: Construct and calibrate mathematical and numerical models of subsurface flow at local, basin and regional scales. There have been no products developed in this task. No existing data has been used and no (test equipment) calibration has been needed. No scientific & engineering software has been developed, although MODFLOW (a USGS developed software) had been anticipated to be used. It has not been utilized in this task. Scientific notebook No. 126 was reviewed. The PI entries were all dated at the beginning of the entry and signed at the conclusion of the entry. Entries are in permanent ink, corrections are made with a single line, initialled and dated, and secured in a bound and sequentially numbered notebook. Numerous computer plots were printed out and neatly glued securely into the scientific notebook which help convey thoughts to the reader.

5704-134: Use geochemical data to evaluate models. The PI stated that no work has occurred in this task and no products have been delivered. No scientific & engineering software has been used in this task, however EQ3/6 was the software of choice if one had been utilized. Scientific notebook No. 094 was reviewed and although only 11 pages have been used, the requirements of QAP-001 were being met. This scientific notebook had been previously reviewed and verified in 1994.

5704-135: Apply models to analyze problems critical to repository performance. There has been no work in this task and no products generated. The scientific & engineering software MODFLOW and MODFLOWP were selected, but have not been utilized. No existing data has been utilized.

5704-136: Report preparation. The PI is responsible for the Regional Hydrogeologic input to the Semi-Annual Report. No scientific & engineering codes were utilized and the PI states that no existing data was used.

Personnel qualification and QA indoctrination records were verified for the following personnel contributing to the Regional Hydrogeologic Research tasks:

G. Wittmeyer (PI), W. Murphy, K. Spivey, D. Ferrill, D. Turner, R. Klar, D. Balin, and V. Kapoor (whose records were in inactive status since he left SwRI/CNWRA).

UNSATISFACTORY FINDINGS: None

NONCONFORMANCE REPORT NO: None



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PAGE 2 OF 2

ATTACHMENTS: None

RECOMMENDATIONS/ACTIONS: During this surveillance, the QA representative had some difficulty in locating scientific and engineering software objective evidence in the QA Records Room pertaining to configuration management. Such documentation and diskettes/tapes were present and available, but could be better marked and positioned in the software filing cabinets. With the CNWRA funding changes, the control of such documentation and tapes will be handled by CNWRA staff. QA will address this issue by reorganizing the physical filing system to make it easier to determine the status of each piece of scientific & engineering software. During the period of this surveillance reorganization of the scientific & engineering software under configuration management started to take place.

APPROVED:

B. Mabrito
CENTER DIRECTOR OF QUALITY ASSURANCE

DATE:

1/11/96

DISTRIBUTION:

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ORIGINATOR B. Mabrito
PRINCIPAL INVESTIGATOR G. Wittmeyer
ELEMENT MANAGER E. Pearcy
B. Sagar, H. Garcia,
All Element Managers