



Department of Energy
Office of Civilian Radioactive Waste Management
Yucca Mountain Site Characterization Office
P.O. Box 98608
Las Vegas, NV 89193-8608

DEC 21 1995

L. Dale Foust
Technical Project Officer
for Yucca Mountain
Site Characterization Project
TRW Environmental Safety Systems, Inc.
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Las Vegas, NV 89109

ISSUANCE OF SURVEILLANCE RECORD YMP-SR-96-002 RESULTING FROM
YUCCA MOUNTAIN QUALITY ASSURANCE DIVISION'S (YMQAD) SURVEILLANCE
OF THE CIVILIAN RADIOACTIVE WASTE MANAGEMENT SYSTEM MANAGEMENT
AND OPERATING CONTRACTOR (CRWMS M&O) (SCPB: N/A)

Enclosed is the record of Surveillance YMP-SR-96-002 conducted by
the YMQAD at the CRWMS M&O facilities in Las Vegas, Nevada,
November 14-21, 1995.

The purpose of the surveillance was to review Yucca Mountain Site
Characterization Project processes for qualifying existing
technical data.

One Performance Report (PR) was issued as a result of this
surveillance. Response to the PR is due by the date indicated in
Block 13 on the PR.

This surveillance is considered completed and closed as of the
date of this letter. A response to this surveillance record and
any documented recommendations are not required.

However, the open PR will continue to be tracked until it is
closed to the satisfaction of the Quality Assurance
representative and the Director, Office of Quality Assurance.

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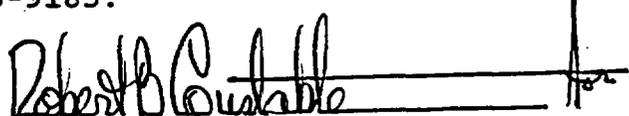
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L. Dale Foust

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If you have any questions, please contact either Mario R. Diaz at 794-7974 or Patrick V. Auer at 295-9185.



Richard E. Spence, Director
Yucca Mountain Quality Assurance Division

YMQAD:MRD-798

Enclosure:
Surveillance Record
YMP-SR-96-002

cc w/encl:

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OFFICE OF
RADIOACTIVE WASTE MANAGEMENT
U.S. DEPARTMENT OF ENERGY
WASHINGTON, D.C.

QUALITY ASSURANCE SURVEILLANCE RECORD

SURVEILLANCE DATA

¹ORGANIZATION/LOCATION:
Civilian Radioactive Waste
Management System Management
and Operating Contractor
(CRWMS M&O), Las Vegas,
Nevada

²SUBJECT:
Qualification of Existing Technical Data

³DATE: 11/14 - 21/95

⁴SURVEILLANCE OBJECTIVE:
Review the Yucca Mountain Site Characterization Project processes for qualifying existing technical data.

⁵SURVEILLANCE SCOPE:
Review rationale and criteria and determine the effectiveness of the process
used for qualifying Borehole Geophysical Data.

⁶SURVEILLANCE TEAM:
Team Leader:

Patrick V. Auer
Additional Team Members:

Richard L. Weeks

⁷PREPARED BY:
Patrick V. Auer 11/13/95
Surveillance Team Leader Date

⁸CONCURRENCE:
N/A
QA Division Director Date

SURVEILLANCE RESULTS

⁹BASIS OF EVALUATION/DESCRIPTION OF OBSERVATIONS:

See Page(s) 2-4

¹⁰SURVEILLANCE CONCLUSIONS:

See Page(s) 5

¹¹COMPLETED BY:
Patrick V. Auer 12/20/95
Surveillance Team Leader Date

¹²APPROVED BY:
Robert B. Gustable 12-20-95
QA Division Director Date

Block 9 (continued) BASIS OF EVALUATION/DESCRIPTION OF OBSERVATIONS:

The purpose of this surveillance was to verify compliance with Yucca Mountain Administrative Procedure (YAP)-SIII.1Q, Revision 0, "Qualification of Existing Data," and YAP-2.1Q, Revision 1, "Technical Assessment." This verification included a review of the implementation and effectiveness of the process used for qualifying existing technical data. This surveillance was conducted from November 14 through 21, 1995 on CRWMS M&O at the Bank of America Center, Las Vegas, Nevada.

QUALIFICATION OF EXISTING DATA PROCESS:

The Technical Assessment (TA) for Borehole Geophysical Data was conducted in accordance with YAP-SIII.1Q and YAP-2.1Q as specified in a U.S. Department of Energy (DOE) letter of request (AMSL:MCT-33-5) and Technical Assessment Notice (TAN) dated May 18, 1995. The TA Chairperson determined that no additional procedures were necessary and formed a TA Team to conduct the TA. The method to be used, procedural equivalency, was specified in the TAN.

The TA Chairperson designated a secretary for the TA, determined the technical disciplines required to effectively qualify the data, and set minimum qualifications required for TA Team members. It was determined that four technical personnel and a representative from CRWMS M&O Quality Assurance (QA) would be adequate to conduct the TA. Additionally, two objective evidence gatherers were used to speed up the process and ensure appropriate information was available to the TA Team.

The process was conducted in two phases; phase 1, procedural equivalency, and phase 2, compliance demonstration.

In order to accomplish phase 1, the Team searched the CRWMS M&O Records Information System which identified YAP-SIII.4Q, Revision 0, "YMSCP Field Verification of Geophysical Logging Operations," and YAP-SIII.5Q, Revision 0, "Preparation of Borehole Geophysical Logging Programs for Surface-Based Testing Program Boreholes," as the current procedures related to geophysical logs. Fenix & Scission, the primary drilling and logging contractor for the 39 boreholes being assessed, utilized Quality Assurance Procedure (QAP)-5.2, Revision 0 and QAP-9.16, Revision 0, to implement quality controls on the data being assessed. The Fenix & Scission procedures were compared to the current procedures to determine procedural equivalency. In order to accomplish phase 2, the Team reviewed objective evidence to determine that drilling and logging were conducted in accordance with the procedures.

The TA Secretary developed checklists for both phases in order to ensure consistency among the reviewers. The phase one checklist was developed from the process steps of YAP-SIII.4Q and YAP-SIII.5Q (See recommendation #3). Additionally, to provide further confidence that the process was effective, questions were developed from a Requirements Traceability Network

cross-check with the Quality Assurance Requirements and Description (QARD) document (attention to Sections 2, 4, 7, 15 and 17). The Team recommended qualification of both procedures based on the completed checklists.

The phase 2 checklists, one for each of the 39 boreholes, was developed to ensure that objective evidence exists to verify that drilling and geophysical logging were conducted in accordance with the procedures. The TA Team reviewed log quality reports, log headers, QA surveillance/audit documentation, work orders and change requests, Fenix & Scission QA procedures, Raytheon Services Nevada logging procedures, records management procedures and Nevada Nuclear Waste Storage Investigation technical and quality requirements imposed on contractors as evidence of compliance with the Fenix & Scission procedures. The checklists contained accession numbers for all records reviewed to provide evidence of traceability to reviewed documents. The reviewers completed their reviews independently and compared rejected and accepted geophysical logs. Differences of opinion were addressed by the Chairperson, of the 19 logs with differences noted, 17 were rejected and two were accepted (See recommendation #2). There were 1,011 geophysical logs reviewed, 766 (75.7 percent) were accepted through the process.

It should be noted that this TA was limited to the qualification of geophysical log data, only. Land survey data, which is included on the geophysical logs that were qualified, to establish location and elevation of the boreholes was not qualified. Potential users of this data should be made aware that the QA pedigree of the land survey data is indeterminate. (See Recommendation #4)

A recommendation was made by CRWMS M&O to the Yucca Mountain Site Characterization Office (YMSCO) to qualify the 766 logs which were accepted by the TA Team in CRWMS M&O letter LV.SL.SJB.08/95-068, dtd. 8/3/95, LDF to SJB. YMSCO accepted the CRWMS M&O recommendation in YMSCO letter AMSL:CMN-4340, dtd. 8/29/95, SJB to LDF. The next step in the process, which is in progress and was not verified, is to put the data into the technical data base.

TA TEAM QUALIFICATIONS:

Personnel qualifications were reviewed for the technical assessment team and are as follows: (See Recommendation #1)

Person	Degree	Years Experience/Industry	Area of Technical Assessment
L. Cuba	N/A	N/A	Chairperson
N. Jones	M.S. Geochemistry	5 Years YMP	Secretary

F. Tsai	Phd. Mineral Engineering	7 Years YMP	Procedure Equivalency
M. Fortsch	B.A. Chemistry	23 Years Nuclear	Procedural Equivalency
M. Pendleton	M. S. Geology	20 Years Earth Science	Compliance Demonstration, Technical
R. Clayton	Phd Geoscience	4 Years Geological Exploration	Compliance Demonstration, Technical

TRAINING FILES REVIEWED:

The following personnel training files were reviewed to verify completion of required self-study training on YAP-2.1Q; Katherine Ho, Michelle Shillings, Martha Pendleton, Robert Clayton, Frank Tsai, Mark Fortsch, Nile Jones and Larry Cuba. All self-study sheets were completed as required.

DOCUMENTS REVIEWED:

YAP-SIII.1Q, Revision 0, "Qualification of Existing Data."
YAP-2.1Q, Revision 0, "Technical Assessment."
Fenix & Scission QAP-5.2, Revision 0, "Procedure for the Development of Drilling Programs."
Fenix & Scission QAP-9.16, Revision 0, "Procedure for the Surveillance of Logging Operations."
YMSCO letter AMSL:MCT-3305, dtd. 6/5/95, SJB to LDF
TAN dtd. 5/18/95
CRWMS M&O letter LV.SL.SJB.08/95-068, dtd. 8/3/95, LDF to SJB
YMSCO letter AMSL:CMN-4340, dtd. 8/29/95, SJB to LDF
Objective Evidence package for Borehole USW GU-3

PERSONNEL CONTACTED:

Claudia Newbury, Physical Scientist, DOE
Larry Cuba, Senior Assurance Engineer, CRWMS M&O
Nile Jones, Reference Information Base Administrator, CRWMS M&O
Bud Thompson, Geophysics Department Manager, CRWMS M&O
Steve Bodnar, Technical Data Manager, CRWMS M&O

Block 10 (continued) SURVEILLANCE CONCLUSIONS

In conclusion, implementation of the process for qualifying existing data by the CRWMS M&O is considered effective for the data set qualified. The CRWMS M&O did an excellent job of documenting the qualification criteria, process, and decisions resulting from the TA. All records, including borehole data were well organized and easily retrievable.

The adequacy of the procedures could be improved and as a result, one deficiency document has been issued and four recommendations for consideration are listed below.

DEFICIENCY:

YAP-SIII.1Q does not require documentation of justification for the choice of qualification methods (e.g., Peer Review or TA) as required by Supplement III of the QARD (reference: YMQAD-96-P011).

RECOMMENDATIONS:

1. YAP-2.1Q, Section 5.1.2.c, - Recommend that minimum qualifications for personnel conducting TAs be more specifically described to address the technical activities being evaluated. Future descriptions of minimum technical qualifications should require a minimum level of experience in the specific technical area to be evaluated.
2. YAP-2.1Q, Section 5.1.1.c - Recommend removal of words, "instructions regarding comment resolution" since these instructions are found in Section 5.2 and the Chairperson is required to be trained to YAP-2.1Q, therefore, it is not necessary to include these words. If special instructions are anticipated, it may be prudent to include language in YAP-2.1Q that requires the Chairperson to describe those special instructions.
3. Recommend that when Procedural Equivalency Checklists are used, they include the identification and revision of both procedures being compared, on each page of the checklist.
4. Recommend that a report be generated as a quality record to summarize the results of the TA. The current revision of the TA procedure does not prescribe the method by which the results of the assessment are reported and the basis for the results nor does it identify subsets of data that were not qualified. An example is the land survey data that establishes location and elevation for the geophysical data qualified by this TA. The land survey data was not qualified and therefore, its status is indeterminate.