



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

DEC 04 1995

L. Dale Foust
Technical Project Officer
for Yucca Mountain
Site Characterization Project
TRW Environmental Safety Systems, Inc.
Bank of America Center, Suite P-110
101 Convention Center Drive
Las Vegas, NV 89109

ISSUANCE OF SURVEILLANCE RECORD YMP-SR-96-004 RESULTING FROM
YUCCA MOUNTAIN QUALITY ASSURANCE DIVISION'S (YMQAD) SURVEILLANCE
OF THE CIVILIAN RADIOACTIVE WASTE MANAGEMENT SYSTEM MANAGEMENT
AND OPERATING CONTRACTOR (CRWMS M&O)/SANDIA NATIONAL
LABORATORIES (SNL) (SCPB: N/A)

Enclosed is the record of Surveillance YMP-SR-96-004 conducted by
the YMQAD at the CRWMS M&O/SNL facilities at Yucca Mountain,
Nevada, October 12 and 25, 1995.

The purpose of the surveillance was to evaluate implementation of
Technical Procedure 234, "Conducting Rock Mass Quality
Assessment."

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

If you have any questions, please contact either Mario R. Diaz at
794-7974 or Richard L. Weeks at 794-7853.

Richard E. Spence, Director
Yucca Mountain Quality Assurance Division

YMQAD:MRD-608

Enclosure:
Surveillance Record
YMP-SR-96-004

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DEC 04 1995

L. Dale Foust

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cc w/encl:

D. A. Dreyfus, HQ (RW-1) FORS
R. W. Clark, HQ (RW-3.1) FORS
T. A. Wood, HQ (RW-14) FORS
C. J. Henkel, NEI, Washington, DC
J. G. Spraul, NRC, Washington, DC
W. L. Belke, NRC, Las Vegas, NV
R. R. Loux, NWPO, Carson City, NV
Cyril Schank, Churchill County Commission, Fallon, NV
D. A. Bechtel, Clark County Comprehensive, Las Vegas, NV
J. D. Hoffman, Esmeralda County, Goldfield, NV
Eureka County Board of Commissioners, Eureka, NV
Lander County Board of Commissioners, Battle Mountain, NV
Jason Pitts, Lincoln County, Pioche, NV
V. E. Poe, Mineral County, Hawthorne, NV
P. A. Niedzielski-Eichner, Nye County, Chantilly, VA
L. W. Bradshaw, Nye County, Tonopah, NV
William Offutt, Nye County, Tonopah, NV
Florindo Mariani, White Pine County, Ely, NV
B. R. Mettam, County of Inyo, Independence, CA
Mifflin and Associates, Las Vegas, NV
S. L. Bolivar, LANL, Los Alamos, NM
R. E. Monks, LLNL, Livermore, CA
J. D. Christensen, Kiewit/PB, Las Vegas, NV
R. R. Richards, SNL, Albuquerque, NM, M/S 1333
R. P. Ruth, M&O, Las Vegas, NV
T. H. Chaney, USGS, Denver, CO
Donald Mangold, LBL, Berkeley, CA
C. K. Van House, YMQAD/QATSS, Las Vegas, NV
A. W. Rabe, YMQAD/QATSS, Las Vegas, NV

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)/Sandia National
 Laboratories (SNL), Yucca
 Mountain, Nevada

²SUBJECT:
 Rock Mass Quality Data Gathering

³DATE: October 12 and 25, 1995

⁴SURVEILLANCE OBJECTIVE: Evaluate implementation of Technical Procedure (TP)-234, "Conducting Rock Mass Quality Assessment."

⁵SURVEILLANCE SCOPE:
 Evaluate implementation of selected requirements as stated in TP-234, Revision 00 and examine personnel qualification of Agapito and Associates, Inc. (AAI) staff to ensure training requirements were met prior to conducting work.

⁶SURVEILLANCE TEAM:
 Team Leader:

Richard L. Weeks

Additional Team Members:

John R. Doyle

⁷PREPARED BY:

Richard L. Weeks Richard L. Weeks 10/11/95
 Surveillance Team Leader Date

⁸CONCURRENCE:

N/A

QA Division Director

Date

SURVEILLANCE RESULTS

⁹BASIS OF EVALUATION/DESCRIPTION OF OBSERVATIONS:

See Page(s) 2-3

¹⁰SURVEILLANCE CONCLUSIONS:

See Page(s) 4

¹¹COMPLETED BY:

Richard L. Weeks
 Surveillance Team Leader

11/21/95
 Date

¹²APPROVED BY:

Robert R. Durbale
 QA Division Director

for 12.4.95
 Date

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

Surveillance YMP-SR-96-004 was conducted to evaluate the processes implemented to collect and report on Rock Mass Quality data. This data is utilized, during the construction of the Exploratory Studies Facility (ESF), to provide a basis for verification of the installed ground support.

On October 12 and 25, 1995 activities related to the collection of Rock Mass Quality data were observed and verification of training records of AAI personnel, who collect the data, was completed. A. Stone of AAI was accompanied to the ESF and observed collecting data in accordance with TP-234, Revision 00. The area of data collection within the ESF was from 2155 meters to 2180 meters. Discussions with CRWMS M&O Subsurface Engineering personnel indicated rock mass data was provided to them in a timely fashion. R. Taylor of SNL provided copies of the Training Log which documented completion of training by AAI personnel. Additionally, training documentation was examined to verify completion of training to procedures that govern the work that was evaluated. Telephone conversations with both SNL and AAI training personnel facilitated the evaluation of training documents.

It was also verified that Scientific Notebook #032 was in use at the time of the surveillance. Copies of Tunnel Boring Machine (TBM) Rock Quality Estimate Worksheets were included in the Scientific Notebook #032 and found to be complete and correct. It was verified that Scientific Notebook #020 was utilized for data collection prior to Scientific Notebook #032. Scientific Notebook #020 was not examined for correctness and content during the surveillance.

Technical Data Information Form (TDIF) #304524, which had been submitted to the Record Processing Center (Record number May 950 810-0404), was examined. A sample of TBM Rock Quality Estimate forms, representing intervals 1010 meters to 1030 meters, were examined and found to be complete. It was also verified that interval 1020 meters to 1025 meters (data originally collected by K. Donnelson) was field checked by A. Stone on June 14, 1995.

This surveillance verified that the following procedural requirements were met:

1. TP-234, Revision 00, "Conducting Rock Mass Quality Assessment"
 - the location of the interval for rock mass quality assessment will be established with respect to ESF co-ordinate systems, (Section 4.3.1)
 - major geologic features will be recorded, (Section 4.3.2)
 - an evaluation of a tunnel interval is conducted by someone other than the original data collector at a later time. (Section 4.7, 1.)
 - data sheet originals are stored in the Scientific Notebook (Section 4.8)
 - an independent analysis will be conducted by a different qualified person on at least 5 percent of the intervals within each thermal-mechanical unit (Section 4.7) {Note: There was no attempt to verify that 5 percent of the intervals were independently analyzed, only that an independent analysis was conducted.}

2. Work Agreement-0116, Revision 01, "Design Verification Activities in the Alcove/NRST and North Ramp."
 - supply draft rock mass quality reports of the north ramp to the constructor for use in ground support selection. (Section 1.2, Task 5)
3. Quality Assurance Implementing Procedure, QAIP 2-5, Revision 03, "Training"
 - trainee completes Training Confirmation Form (Section 4.1, Step 6)
4. Yucca Mountain Administrative Procedure (YAP) SIII.2Q, Revision 0, "Technical Information Flow to and from the Yucca Mountain Site"
 - completes a TDIF in accordance with YAP-SIII.3Q, Control and Transfer of Technical Data on the Yucca Mountain Site Characterization Project (Section 5.2, b.)

The following documents were reviewed to verify compliance to requirements and insure completeness:

1. TBM Rock Quality Estimate Worksheets (preliminary copies)
 - dated 10/12/95 (2155 meters to 2160 meters)
 - dated 10/12/95 (2160 meters to 2165 meters)
 - dated 10/12/95 (2165 meters to 2170 meters)
 - dated 10/12/95 (2170 meters to 2175 meters)
 - dated 10/12/95 (2175 meters to 2180 meters)
2. Scientific Notebook #032, "Rock Mass Quality for the North Ramp and Main Drift", October 1995
3. Work Agreement - 0116, Revision 1, "Design Verification Activities in the Alcove/NRST and North Ramp"
4. TDIF #304524, (Data Tracking Number: SNF32120393001.008)
5. Training Confirmation Form
Kenneth D. Donnelson, dated 8/28/95

Personnel contacted during the course of the surveillance:

Jud G. Blickley, Training Manager, SNL
Kimberley Greathouse, Quality Assurance Administrator, AAI
Robert Kehrman, Title III Subsurface Architect Engineer, CRWMS, M&O
Clinton Lum, Principle Investigator (PI), SNL
John Pott, Task Leader, SNL
Andrew Stone, Senior Geotechnical Engineer, AAI
Ronnie Taylor, PI, SNL

Block 10 (continued) SURVEILLANCE CONCLUSIONS:

As a result of this surveillance, it was determined that AAI was effective in implementing a quality program, as a subcontractor to SNL, for the collection and distribution of rock mass quality data and the training of personnel conducting work. There were no deficiency documents generated as a result of this surveillance.