

OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT

YUCCA MOUNTAIN QUALITY ASSURANCE DIVISION

QUALITY ASSURANCE SURVEILLANCE REPORT OF

NEUTRON-ACCESS BOREHOLE RECORDS GENERATED AS A

RESULT OF THE IMPLEMENTATION OF JOB PACKAGE 91-09

SURVEILLANCE NO. YMP-SR-92-007

CONDUCTED APRIL 1 THROUGH 15, 1992

ACTIVITIES SURVEILLED:

REVIEW THE STATUS OF RECORDS GENERATED BY  
FIELD PARTICIPANTS FOR THE DRILLING OF  
NEUTRON-ACCESS BOREHOLES. VERIFY PERFORMANCE  
ASSESSMENTS WERE PERFORMED WHEN FOUR  
NEUTRON-ACCESS BOREHOLES WERE RELOCATED.

Prepared by: Gerard Heaney Date: 4/23/92  
Gerard Heaney  
Quality Assurance Engineer  
Yucca Mountain Quality Assurance Division

Approved by: D. G. Horton For Date: 5/6/92  
Donald G. Horton  
Director  
Office of Quality Assurance

## 1.0 EXECUTIVE SUMMARY

The review of records for the neutron-access boreholes, indicates that a clear concise indexing system has not been put into place to ensure records generated in the field are traceable to the job package (JP) which initiated the work the records support. Participants are submitting records to the Local Records Center (LRC) by borehole number. Personnel in the LRC do not have the knowledge of which boreholes apply to what JPs. Draft Administrative Procedure (AP)-6.22Q, "Job Package Records," is not yet in place to provide participants direction on how to assemble a JP records package. Additionally, the Field Management Plan (FMP) requires field generated records to be sent to the Site Document and Records Center (DRC). Records are presently being submitted to the LRC in the Valley Bank Building. Corrective Action Request (CAR) YM-92-033 has been issued addressing this traceability issue. It is recommended that management issue a directive informing field participants to follow the FMP requirements for the submittal of records to the DRC. Additional recommendations for resolving records traceability and retrieval problems are contained in Section 6.0 of this report.

Two additional CARs (YM-92-031 and YM-92-032) were issued.

CAR YM-92-031 was generated as JP 91-09 requires revision to incorporate Raytheon Services Nevada (RSN) Field Verification Plan (FVP) No. 92-001, Revision 0, into the JP as required by AP-5.16Q. Drilling of neutron-access boreholes began in September 1991. The RSN FVP is dated January 27, 1992. Investigation to assess if inspections from September 1991 to January 27, 1992 were performed although the FVP was not in place is required as part of the corrective action to the CAR.

CAR YM-92-032 addresses the fact that the Test Planning Package No. 91-34 requires revision to incorporate the Sandia National Laboratories (SNL) performance assessment analyses that were performed when four neutron access holes were relocated.

## 2.0 SCOPE

This surveillance was performed from April 1 through 15, 1992, to review the status of records generated by field participants for the drilling of neutron-access boreholes in association with JP 91-09, "Neutron Access Boreholes," Revision 1.

The surveillance was also conducted to verify performance assessments were performed when four neutron-access boreholes (Nos. N36, N17, N15, and N16 per FCR No. 92-036) were relocated. Performance assessment analyses are required to be performed for all construction, operation, and site characterization activities that may adversely impact the ability of the natural barriers to isolate waste. This analysis is performed because the natural barriers are contained as an attachment to the Q-List.

### 3.0 SURVEILLANCE TEAM

Gerard Heaney, Quality Assurance (QA) Engineer, Science Applications International Corporation (SAIC), Yucca Mountain Quality Assurance Division (YMQAD), Las Vegas, Nevada

### 4.0 PERSONNEL CONTACTED DURING THE SURVEILLANCE

The following personnel were contacted during the course of the surveillance:

W. Wilson, U.S. Department of Energy (DOE)/Yucca Mountain Site Characterization Project Office (YMPO) Site Manager  
P. Wilson, Reynolds Electrical and Engineering Company (REECo) QA Engineer  
K. Grassmeier, DOE Chief, Operations Control Branch  
J. Peck, SAIC, Manager, Sample Management Facility  
C. Lewis, SAIC, Geologist  
E. Mouser, RSN Quality Control Engineer  
E. Wright, RSN, Drilling Engineer  
J. McDonald, REECo, Drilling Superintendent  
A. Girdley, DOE, Field Test Coordinator  
D. Rhodes, Desert Research Institute (DRI), Archaeologist  
S. Carruth, Records Analyst, Management and Operations (M&O)  
L. Tate, Records Analyst, M&O  
F. Peters, SAIC, Job Package Coordinator

### 5.0 SURVEILLANCE RESULTS

1. As a result of the surveillance 3 CARs were issued. A synopsis of each is provided below:

CAR NO. YM-92-031

JP 91-09, "Neutron Access Boreholes", Revision 1 requires revision to incorporate RSN Field Verification Plans which are required to be incorporated into a JP per AP-5.16Q. JP 91-09 also requires revision to reference the latest revision of a RSN Work Program and also to list specific records generated as a result of implementation of the JP.

CAR NO. YM-92-032

Test Planning Package No. 91-34 requires revision to incorporate the SNL performance assessment analysis results performed when four neutron-access boreholes were relocated.

CAR NO. YM-92-033

Records generated as a result of the implementation of JPs are not traceable to the JP. Participants are submitting records to the LRC in Las Vegas via borehole numbers for the neutron access boreholes. Presently there is no indexing system in place that would enable LRC personnel to know what JP to file the records under. AP-6.22Q is not yet in place to provide participants direction on how to assemble a JP records package. Sample Management personnel work to JP 91-03, "Field Management," and would not necessarily submit field generated records to the DRC under the JP that drilled the borehole (91-09).

The FMP, Revision 1, states that records generated as a result of the performance of field activities will be sent to the DRC. Presently this is not being implemented as evidenced by participants submitting records to the Las Vegas LRC.

Information copies of the CARs are contained in Enclosure 1 of this report.

2. The status of records for the neutron access boreholes for each participant is as follows:

RSN - Drilling records for borehole nos. 54, 55, and 37 have been submitted to the Central Records Facility (CRF) under the borehole number. Inspection records for these boreholes have not yet been processed. RSN is not required to put records into the system until the work within the JP is completed.

REECO - Daily drilling reports have not yet been processed. REECO is not required to put records into the system until the work within the JP is completed.

SMF - Sample records for several boreholes have been sent to the CRF under the borehole number. The Sample Management Facility (SMF) currently operates under JP 91-3, therefore neutron access records they produce would never get into the JP 91-09 records package.

DRI - Survey reports are submitted to the CRF under numbers other than JP or drill hole numbers. Results of surveys are presented within a letter that is included in the JP. The survey reports are supposedly retrievable using this letter number.

EG&G/EM records were not checked.

## 6.0 RECOMMENDATIONS

JP 91-09 will not be completed for at least another year as current plans are to add 12 more neutron access boreholes to the JP as soon as funding is approved. Records for completed work are not required to be submitted until time the JP is complete. QA recommends the following actions to help ensure records traceability and retrieval:

1. Management initiate a directive for field participants to submit field records generated as a result of the implementation of a JP to the DRC in accordance with the Field Management Plan, Revision 1, paragraph 4.8.
2. Require that JP 91-09 specify that records are required to be submitted a certain timeframe after a borehole is completed.
3. Require that JPs contain a records index or tracking number and the title of the records package. The JP coordinator or the field test coordinator should work this out with the DRC prior to issue of a JP. All participants should be directed to submit records under this index or tracking number and title to ensure records will be sent to the same record package.
4. Institute the traveler system which is presently being trial tested for the construction of the UZ-16 drill pad. The traveler provides a daily index of of the records generated each day by the field participants. The person responsible for compilation of the JP records package will be able to readily compile a JP records package table of contents with the information on the traveler. The traveler provides accountability for the field records generated. The traveler would also provide a status of the work being performed and allow for the inclusion of hold points between the A/E and constructor.
5. Require the SMF personnel to include their procedures utilized and records generated within individual JPs. Revise AP-5.21Q to take exception that the SMF cost data be broken down for each individual JP. A new JP for field management will not be issued. SMF previously used JP 91-03 titled "Field Management," to cover their work due to the decision not break down cost data for each individual JP.

**ENCLOSURE 1**

**INFORMATION COPIES OF CARS**

**(BLANKS ON CAR FORMS ARE INTENTIONAL)**

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

8 CAR NO.: YM-92-031  
DATE: 4/16/92  
SHEET: 1 OF 1  
QA

**CORRECTIVE ACTION REQUEST**

1 Controlling Document AP-5.16Q, Revision 0		2 Related Report No. YMP-SR-92-007	
3 Responsible Organization YMPO		4 Discussed With Arch Girdley	
5 Requirement: AP-5.16Q, "Field Technical Compliance," Revision 0, paragraph 5.0, Step 3 states in part, "Include the inspection and test (I&T) material in the collated job package. Note: I&T requirements developed after initial job package approval are incorporated via AP-3.5Q, Field Change Control."			
6 Adverse Condition: Contrary to the above requirement, RSN Field Verification Plan (FVP) 92-001, Revision 0, has not been incorporated into Job Package 91-09, "Neutron Access Boreholes," Revision 1.  RSN FVP 92-001, Revision 0, was approved on January 27, 1992. Drilling of Neutron Access Boreholes began in September 1991. Inspections were not documented as required on FVPs between September 1991 and January 27, 1992.  NOTE 1: RSN Work Program, dated 9/13/91, "USGS Neutron Access Borehole Program, "Revision 1, was added to Revision 1 of JP 91-09. Page one of JP 91-09 still refers to superseded RSN Work Program (RSN-YMP-191, dated 8/23/91). NOTE 2: Section B.1.C, "Record Turnover Package Requirements," does not adequately list records generated during implementation of JP 91-09. This section currently states, "RSN will provide a record of construction completions, as-built drawings, and map and table showing final locations and elevations to the SM for the Records Turnover Package."			
9 Does a significant condition adverse to quality exist? Yes ___ No <u>X</u> If Yes, Circle One: A B C		10 Does a stop work condition exist? Yes ___ No <u>X</u> ; if Yes - Attach copy of SWO If Yes, Circle One: A B C D	
11 Response Due Date: 15 days from transmittal date			
12 Required Actions: <input checked="" type="checkbox"/> Remedial <input type="checkbox"/> Extent of Deficiency <input type="checkbox"/> Preclude Recurrence <input type="checkbox"/> Root Cause Determination			
13 Recommended Actions: 1. Revise AP 5.16Q to only require reference to the RSN Field Verification Plan. 2. Investigate to determine status of inspections for the period when an approved FVP was not available. 3. Revise JP 91-09 to reflect current work program and revise JP, Section B.1.C to indicate specific records to be included in the record turnover package.			
7 Initiator <i>Gerard Heaney</i> Gerard Heaney		14 Issuance Approved by: <i>R.C. Spence</i> QADD <i>R.C. Spence</i> Date <u>4/24/92</u>	
15 Response Accepted QAR _____ Date _____		16 Response Accepted QADD _____ Date _____	
17 Amended Response Accepted QAR _____ Date _____		18 Amended Response Accepted QADD _____ Date _____	
19 Corrective Actions Verified QAR _____ Date _____		20 Closure Approved by: QADD _____ Date _____	

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WASHINGTON, D.C.

8 CAR NO.: YM-92-032  
DATE: 4/16/92  
SHEET: 1 OF 1  
QA

**CORRECTIVE ACTION REQUEST**

1 Controlling Document  
AP-5.32Q, Revision 2

2 Related Report No.  
YMP-SR-92-007

3 Responsible Organization  
YMPO

4 Discussed With  
Arch Girdley

5 Requirement:  
AP-5.32Q, "Test Planning and Implementation," Revision 2, paragraph 5.0, Step 16, states in part, "Compile the test planning package using the test planning package outline. Included as a minimum are: e. documentation of completion of required activities."  
AP-6.17Q, "Determination of the Importance of Items and Activities," Revision 0, Exhibit 5, requires an analysis to be performed for all construction, operation,

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WASHINGTON, D.C.**

8 CAR NO.: YM-92-033  
DATE: 4/16/92  
SHEET: 1 OF 2  
QA

**CORRECTIVE ACTION REQUEST**

1 Controlling Document QAPD, Revision 3	2 Related Report No. YMP-SR-92-007
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3 Responsible Organization YMPO	4 Discussed With Winn Wilson/Arch Girdley
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5 Requirement:

The Quality Assurance Program Description Document, Revision 3, Section 17, "Quality Assurance Records," paragraph 17.5 states, "Records or indexing systems provide sufficient information to permit identification between the record and its applicable items or activities."

AP-5.21Q, "Field Work Activation," is the procedure that generates Job Packages (JPs) which govern construction, drilling, and trenching activities at the site.

6 Adverse Condition:

Contrary to the above, records generated as a result of the implementation of Job Package (JP) 91-09, "Neutron Access Boreholes," have been submitted to the Local Records Center (LRC) and are not traceable to the JP. Records have been submitted for drilling activities associated with Neutron Access Borehole numbers USW UZN 54, 55, and 37. These records do not have the JP number annotated on the transmittal to inform the LRC and Central Records Facility personnel as to where to file the records. Additionally, Sample Management Facility (SMF) personnel work under JP 91-03, "Field Management." Records generated by the SMF personnel would be filed under JP 91-03 and not JP 91-09 which is the JP that governed the activity.

In addition, records generated by the implementation of job packages are not traceable to study plans. Work performed by the implementation of a JP is in direct support of a site characterization activity described within study plans.

9 Does a significant condition adverse to quality exist? Yes <u>X</u> No ___ If Yes, Circle One: A <u>(B)</u> C	10 Does a stop work condition exist? Yes ___ No <u>X</u> ; if Yes - Attach copy of SWO If Yes, Circle One: A B C D	11 Response Due Date: 15 Days From Transmittal Date
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12 Required Actions:  Remedial  Extent of Deficiency  Preclude Recurrence  Root Cause Determination

13 Recommended Actions:

Stop the submittal of records generated from field activities until decisions are made firm as to where records are to be transmitted. Do not begin submitting records until:

A) All field procedures are revised to indicate the specific submittal

7 Initiator <u>Gefard Heaney</u> <u>4-16-92</u> Gefard Heaney Date <u>4/16/92</u>	14 Issuance Approved by: QADD <u>R.C. Spence</u> Date <u>4/24/92</u>
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15 Response Accepted QAR _____ Date _____	16 Response Accepted QADD _____ Date _____
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17 Amended Response Accepted QAR _____ Date _____	18 Amended Response Accepted QADD _____ Date _____
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19 Corrective Actions Verified QAR _____ Date _____	20 Closure Approved by: QADD _____ Date _____
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WASHINGTON, D.C.

8 CAR NO.: YM-92-033  
DATE: 4/16/92  
SHEET: 2 OF 2  
QA

**CORRECTIVE ACTION REQUEST (Continuation Page)**

6 Adverse Condition (continued)

DISCUSSION:

The Field Management Plan YMP/CC-0018, Revision 1, paragraph 4.8 states, "The Site Office will establish an LRC (called the Site Documents and Records Center (DRC)) in Area 25 for use by all field participants. Records will be generated as a result of the performance of most field activities. These records will be submitted to this LRC and processed in accordance with the Records Management Plan and its implementing procedures.

Several procedures used by field participants that generate records as a result of field activities are not explicit in ensuring this Field Management Plan (FMP) requirement is implemented. A choice of which LRC to use is given in the records sections of the procedures. Examples are:

BTP SMF-013, "Staging, Packaging, and Documenting Neutron-Access Borehole Samples," Revision 0, Section 8.0, "Records" states, "Records packages of documentation generated as a result of this procedure shall be assembled and submitted to the appropriate Local Records Center in accordance with requirements specified in approved procedures." BTP-SMF-008 "Field Logging, Handling, and Documenting Borehole Samples," Revision 2 also contains this statement. These paragraphs require revision to stipulate the DRC is where records are to be submitted and not "the appropriate LRC" to be consistent with the FMP requirements.

The procedure RSN utilizes for records PP-17-01, "Records Management," Revision 2, does not discuss that field records are to be sent to the DRC.

The procedure that the DRC utilizes to perform its function as an LRC is WI-REC-006, "YMSO Document and Records Services." Paragraph 5.2.2.2 states, "Upon request from the records source, transmit the records along with a transmittal to the CRF or applicable YMP LRC. Since new AP-1.18Q acknowledges the DRC as a LRC (paragraph 1.1 of AP-1.18Q, Revision 0), paragraph 5.2.2.2 requires revision to state "...with a transmittal to the CRF."

13 Recommended Action(s) (continued)

location (either the LRC in Las Vegas or the Site DRC).

- B) AP-6.22Q, "Job Package Records," is approved and issued.
- C) All field personnel are trained to the record requirements.

Require Job Packages to include a record index number in the "Record Package Turnover Requirements" section to ensure all participants submit records for a particular job to the same record package file.

Develop a records indexing system that will tie field records to a study plan.