



Department of Energy

Washington, DC 20585

MAR 14 1997

QA: L

L. D. Foust, Technical Project Officer
for Yucca Mountain Site
Characterization Project
TRW Environmental Safety Systems, Inc.
1180 Town Center Drive, M/S 423
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ISSUANCE OF SURVEILLANCE RECORD YM-SR-97-014 RESULTING FROM THE
OFFICE OF QUALITY ASSURANCE (OQA) SURVEILLANCE OF THE LAWRENCE
BERKELEY NATIONAL LABORATORY (LBNL)

Enclosed is the record of Surveillance YM-SR-97-014, conducted by the OQA of the LBNL
in Berkeley, California.

The purpose of the surveillance was to verify compliance to requirements specified in documents
implemented by the LBNL, associated with the preparation of "Forecast of Thermal-Hydrological
Conditions and Air Injection Test Results of the Single Heater Test" Report.

The implementation of the quality assurance program was found to be effective. No adverse
conditions to quality were disclosed. 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 James Blaylock at (702) 794-1420 or
Patout H. Cotter at (702) 794-1332.

James Blaylock for
Donald G. Horton, Director
Office of Quality Assurance

OQA:JB-1154

Enclosure:
Surveillance Record YM-SR-97-014

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

Surveillance No. YM-SR-97-014

QUALITY ASSURANCE SURVEILLANCE RECORD

SURVEILLANCE DATA

1. ORGANIZATION/LOCATION: Lawrence Berkeley National Laboratory (LBNL), Berkeley, California	2. SUBJECT: "Forecast of Thermal-Hydrological Conditions and Air Injection Test Results of the Single Heater Test" Report	3. DATE: 2/13-14/96
4. SURVEILLANCE OBJECTIVE: Verify compliance to requirements specified in documents implemented by LBNL		
5. SURVEILLANCE SCOPE: Implementation of selected requirements described in LBNL QA Program procedures which are applicable to the preparation of the subject report		6. SURVEILLANCE TEAM: Team Leader: P.H. Cotter
		Additional Team Members: N/A
7. PREPARED BY: P.H. Cotter <i>P.H. Cotter</i> Surveillance Team Leader	Date 2/12/97	8. CONCURRENCE: N/A QA Division Director
Date		

SURVEILLANCE RESULTS

9. BASIS OF EVALUATION/DESCRIPTION OF OBSERVATIONS: See Page(s) <u>2,3&4</u>	
10. SURVEILLANCE CONCLUSIONS: See Page <u>5</u>	
11. COMPLETED BY: <i>P.H. Cotter</i> Surveillance Team Leader	12. APPROVED BY: <i>James Blyden</i> QA Division Director
Date 3/2/97	Date 3/13/97

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

A surveillance was performed on February 13 and 14, 1997 of the LBNL in Berkeley, California. The objective of this surveillance was to verify that the activities associated with the preparation and issue of Milestone SP918M4, "Forecast of Thermal-Hydrological Conditions and Air Injection Test Results of the Single Heater Test" were performed in compliance with the procedure requirements listed below:

YMP-LBNL-QIP-SIII.0, REV. 1, MOD. 0, "Scientific Investigation", contains the following requirements:

- 1) Paragraph 3.1, the notebook was initiated and identified in accordance with the following requirements:
 - use of bound notebooks or ringed binders
 - entries made in dark colors, ink/other indelible marker
 - page numbering
 - project information
 - alphanumeric identification
 - name, signature and initials
 - designated owner
 - project status

- 2) Paragraph 3.2, the notebook's first entry included:
 - objective
 - description of the work or reference to planning/implementing documents
 - references are identified
 - status of investigation

- 3) Paragraph 3.3, the notebooks ongoing entries included:
 - description of the work as it was performed
 - unique identification of software
 - charts, figures and printed material are securely attached

The Scientific Notebook, YMP-LBL-JBH-1, associated with the subject report, was reviewed and was in compliance with the above procedure requirements.

YMP-LBNL-QIP-6.1, REV. 1, MOD. 0, "Document Review", contains the following requirements:

- 4) Paragraph 3.2, the reviewers shall consider:
 - the review criteria established by the appropriate manager
 - or referenced in the applicable procedure
 - QA review criteria
- 5) Paragraph 3.3.1, documents shall be:
 - reviewed by two technical reviewers
 - reviewed by QA
- 6) Paragraph 3.3.2, each reviewer shall be technically competent:
 - Reviewer Qualification Statement
 - Qualification Reviewer File maintained
- 7) Paragraph 3.6, reviewer shall:
 - document comments on YMP-LBNL Document Review/Comment Resolution Form
- 8) Paragraph 3.8, the author shall:
 - consider and respond to mandatory comments
 - reasons for rejection of comments are recorded
- 9) Paragraph 3.9 The reviewer shall:
 - indicate acceptance or rejection of author's resolution of comments on form

Documents (see objective evidence), associated with the review and resolution of comments and qualification of reviewers, were reviewed and found to be in compliance with the above procedural requirements.

OBJECTIVE EVIDENCE

The following documents were reviewed during the course of the surveillance:

1. Report, Milestone SP918M4, "Forecast of Thermal-Hydrological Conditions and Air Injection Test Results of the Single Heater Test", WBS 1.2.3.14.2.
2. Scientific Notebook, YMP-JBH-1.
3. Quality Implementing Procedure, YMP-LBNL-QIP-SIII.0, REV. 1, MOD. 0, "Scientific Investigation".
4. Quality Implementing Procedure, YMP-LBNL-QIP-6.1, REV. 1, MOD. 0, "Document Review".
5. Document Review Comment Record (DRCR) Form, Stefan Einsterle, dated December 10, 1996.
6. DRCR Form, Christine Doughty, dated December 11, 1996.
7. DRCR Form, Donald Mangold, dated December 12, 1996.
8. Test Design Plans and Layout Report, BAB000000-01717-00025, REV. 00.
9. Characterization of the ESF Thermal Test Area Report, B00000000-01717-5705-00047, REV. 01.
10. Operational Plan and Schedule for the Exploratory Studies facility Thermal Test at Yucca Mountain, BAB000000-01717-4600-00026, REV. 01.
11. Study Plan, "In Situ Thermomechanical Properties", 8.3.1.15.1.6, Rev. 0, WBS 1.2.3.14.2.
12. Study Plan, "Engineered Barrier System Field Tests", 8.3.4.2.4.4, Rev. 0, WBS 1.2.3.12.4.
13. Letter Report on Hydrological Characterization of the Single Heater Test Area in the ESF, dated August 1996, WBS 1.2.3.14.2.

PERSONNEL CONTACTED

The following personnel were interviewed or contacted during the course of this surveillance:

- J. Birkholzer, YMP-LBNL/Geological Scientist
- G. S. Bodvarsson, YMP-LBNL/Project Manager; Head, Nuclear Waste Department
- V. Fissekidou, YMP-LBNL/QA Implementation Specialist/Trainer
- D. Mangold, YMP-LBNL/QA Manager
- Y. Tsang, YMP-LBNL/Group Leader, Site Characterization Data Analysis & Modeling

Block 10 (continued) SURVEILLANCE CONCLUSIONS:

Based on review of objective evidence and interviews with project personnel, it was determined that the adequacy and effectiveness of implementation of the quality assurance program requirements associated with the preparation of Milestone Report, SP918M4, "Forecast of Thermal-Hydrological Conditions and Air Injection Test Results of the Single Heater Test" are satisfactory. No deficient conditions were identified by this surveillance.

DEFICIENT CONDITIONS:

None

RECOMMENDATIONS:

As presently written, paragraph 3.6.1 of YMP-LBNL-QIP-SIII.0, REV 1, MOD 1, "Scientific Investigation" could be interpreted as requiring scientific notebook close-out after formally publishing a report. It is recommended that LBNL management consider revising paragraph 3.6.1 to clarify that scientific notebooks can remain open as long as investigative activities are ongoing and that formally publishing a report does not require that the scientific notebook be reviewed and closed out.