



**Department of Energy**  
 Yucca Mountain Site Characterization  
 Project Office  
 P. O. Box 98608  
 Las Vegas, NV 89193-8608

WBS 1.2.11  
 QA: N/A

SEP 3 0 1993

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 for Yucca Mountain  
 Site Characterization Project  
 Raytheon Services Nevada  
 101 Convention Center Drive  
 Phase II, Suite P-240  
 Las Vegas, NV 89109

VERIFICATION OF CORRECTIVE ACTION AND CLOSURE OF CORRECTIVE ACTION  
 REQUEST (CAR) YM-93-082 RESULTING FROM YUCCA MOUNTAIN QUALITY  
 ASSURANCE DIVISION (YMQAD) AUDIT YMP-93-13 OF RAYTHEON SERVICES NEVADA  
 (SCP: N/A)

The YMQAD staff has verified the corrective action to CAR YM-93-082  
 and determined the results to be satisfactory. As a result, the CAR  
 is considered closed.

If you have any questions, please contact either Robert B. Constable  
 at 794-7945 or Stephen R. Dana at 794-7176.

Richard E. Spence, Director  
 Yucca Mountain Quality Assurance Division

YMQAD:RBC-6266

Enclosure:  
 CAR YM-93-082

cc w/encl:  
 K. R. Hooks, NRC, Washington, DC  
 S. W. Zimmerman, NWPO, Carson City, NV  
 D. J. Tunney, RSN, Las Vegas, NV  
 J. C. de la Garza, YMP, NV

cc w/o encl:  
 J. W. Gilray, NRC, Las Vegas, NV  
 N. J. Brogan, YMQAD/QATSS, Las Vegas, NV

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 PDR WASTE  
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YMP-5

102.7  
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 N/A03

ADD: Ken Hooks  
 W. Encl.  
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**OFFICE OF CIVILIAN  
RADIOACTIVE WASTE MANAGEMENT  
U.S. DEPARTMENT OF ENERGY  
WASHINGTON, D.C.**

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**CORRECTIVE ACTION REQUEST**

<sup>1</sup> Controlling Document PP-12-01, Rev. 1, Control of Measuring & Test Equipment		<sup>2</sup> Related Report No. YMP-93-13	
<sup>3</sup> Responsible Organization RSN		<sup>4</sup> Discussed With W. Kopatch & D. Tunney	
<sup>5</sup> Requirement  PP-12-01, Rev. 1, paragraph 6.2.1 states, "Each M&TE device shall be assigned a unique number. A Calibration History Log (Attachment 1) shall be established and maintained."  Paragraph 6.4.2, states, "A Calibration History Log is maintained by the Equipment Custodian."			
<sup>6</sup> Adverse Condition:  The MTL has not established and therefore has not maintained a Calibration History Log for the Measuring and Test Equipment (M&TE) listed below: 1. Mettler 2000, PTL No. W1063 2. Dial Caliper, PTL No. W5189 3. Tinus Olson, DOE No. 171422 4. Orion ph/mv Meter M651  <u>Discussion:</u>  The M&TE listed above were used to perform tests on YMP samples.			
<sup>9</sup> Does a significant condition adverse to quality exist? Yes ___ No <u>X</u> If Yes, Circle One: A B C		<sup>10</sup> Does a stop work condition exist? Yes ___ No <u>X</u> ; If Yes - Attach copy of SWC If Yes, Circle One: A B C D	
<sup>11</sup> Response Due Date: 20 Working Days from Issuance			
<sup>12</sup> Required Actions: <input checked="" type="checkbox"/> Remedial <input checked="" type="checkbox"/> Extent of Deficiency <input checked="" type="checkbox"/> Preclude Recurrence <input type="checkbox"/> Root Cause Determination			
<sup>13</sup> Recommended Actions:  Identify the remedial action to be taken to correct the deficiency identified in Block 6. Identify the extent of the condition and the planned corrective action to prevent recurrence.			
<sup>7</sup> Initiator <u>S. Jones</u> Date <u>7/21/93</u>		<sup>14</sup> Issuance Approved by: QADD <u>RC Spence</u> Date <u>7/27/93</u>	
<sup>15</sup> Response Accepted QAR <u>S. Jones</u> Date <u>8/27/93</u>		<sup>16</sup> Response Accepted QADD <u>RC Spence</u> Date <u>8/31/93</u>	
<sup>17</sup> Amended Response Accepted QAR Date		<sup>18</sup> Amended Response Accepted QADD Date	
<sup>19</sup> Corrective Actions Verified QAR <u>S. Jones</u> Date <u>9/23/93</u>		<sup>20</sup> Closure Approved by: QADD <u>RC Spence</u> Date <u>9/30/93</u>	

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**CORRECTIVE ACTION REQUEST (Continuation Page)**

A. REMEDIAL:

The MTL has prepared the history logs for all M&TE used at the MTL and all equipment used on YMP samples. It should be noted that there is no calibration history log for the Orion pH meter M-651, since this meter is accuracy checked against the standards every time it is used.

B. INVESTIGATIVE ACTIONS:

Minor. All MTL M&TE has been and is calibrated on a routine basis. However, a calibration history log was not prepared for all weapons owned M&TE. The four items cited in the CAR are weapons owned equipment. Calibration history logs for the items cited are now complete.

Calibration logs for all YMP owned M&TE was already existing.

No quality affecting work was compromised by the omission of calibration logs for these four items.

C. ROOT CAUSE DETERMINATION:

No response required.

D. CORRECTIVE ACTION TO PRECLUDE RECURRENCE:

Calibration history logs will be maintained for all M&TE used on RSN/YMP quality affecting work.

Response Approved: \_\_\_\_\_

Lee E. Watson  
Responsible Manager

Date \_\_\_\_\_

8/23/93

DOE # 171447

RAYTHEON SERVICES NEVADA  
MATERIALS TESTING LABORATORY  
TEST EQUIPMENT HISTORY LOG

TEST EQUIPMENT INITIAL USE DATE: 4/22/74

NAME	MADE BY	SR#	MTL ID#	CAL ID#	CAL BY	CAL DI	CAL DUE D	CAL FRQ	REMARKS
UNIVERSAL TESTING MACHINE	TINUS OLSEN	111302	83	N/A	HELECO	02/20/90	02/20/91	1 YR.	SOILS
TINUS OLSEN X-Y RECORDER	TUNUS OLSEN	111302	83A	N/A	HELECO	02/20/90	02/20/91	1 YR.	SOILS
UNIVERSAL TESTING MACHINE	TINUS OLSEN	111302	83	N/A	HELECO	02/20/90	02/20/91	1 YR.	SOILS
TINUS OLSEN X-Y RECORDER	TUNUS OLSEN	111302	83A	N/A	HELECO	02/15/91	02/15/92	1 YR.	SOILS
UNIVERSAL TESTING MACHINE	TINUS OLSEN	111302	83	N/A	HELECO	02/15/91	02/15/92	1 YR.	SOILS
TINUS OLSEN X-Y RECORDER	TUNUS OLSEN	111302	83A	N/A	HELECO	02/18/92	02/18/93	1 YR.	SOILS
UNIVERSAL TESTING MACHINE	TINUS OLSEN	111302	83	N/A	HELECO	02/18/92	02/18/93	1 YR.	SOILS
TINUS OLSEN X-Y RECORDER	TUNUS OLSEN	111302	83A	N/A	HELECO	02/18/93	02/18/94	1 YR.	SOILS
UNIVERSAL TESTING MACHINE	TINUS OLSEN	111302	83	N/A	HELECO	02/18/93	02/18/94	1 YR.	SOILS

**RAYTHEON SERVICES NEVADA  
MATERIALS TESTING LABORATORY  
TEST EQUIPMENT HISTORY LOG**

TEST EQUIPMENT INITIAL USE DATE: 7/87

NAME	MADE BY	GR#	MTL ID#	CAL ID#	CAL BY	CAL D#	CAL DUE D#	CAL FRQ	REMARKS
BALANCE	METTLER	PM2000	342	1063	REECO	09/18/90	CAL REQ @ MTL	6 MO.	SOILS SEC.
BALANCE	METTLER	PM2000	342	1063	REECO	09/23/92	CAL REQ @ MTL	6 MO.	SOILS SEC.
BALANCE	METTLER	PM2000	342	1063	REECO	09/17/91	REQ @ MTL	6 MO.	SOILS SEC.
BALANCE	METTLER	PM2000	342	1063	REECO	03/13/90	09/13/90	6 MO.	SOILS SEC.
BALANCE	METTLER	PM2000	342	1063	REECO	09/18/90	03/18/91	6 MO.	SOILS SEC.
BALANCE	METTLER	PM2000	342	1063	REECO	09/18/90	03/18/91	6 MO.	SOILS SEC.
BALANCE	METTLER	PM2000	342	1063	REECO	03/15/91	09/15/91	6 MO.	SOILS SEC.
BALANCE	METTLER	PM2000	342	1063	REECO	09/17/91	03/17/92	6 MO.	SOILS SEC.
BALANCE	METTLER	PM2000	342	1063	REECO	03/23/92	09/23/92	6 MO.	SOILS SEC.
BALANCE	METTLER	PM2000	342	1063	REECO	09/23/92	03/23/93	6 MO.	SOILS SEC.

**RAYTHEON SERVICES NEVADA  
MATERIALS TESTING LABORATORY  
TEST EQUIPMENT HISTORY LOG**

TEST EQUIPMENT INITIAL USE DATE: 8/2/90

NAME	MADE BY	SER#	MTE ID#	CAL ID#	CAL BY	CAL D1	CAL DUE D1	CAL FRQ	REMARKS
DIGITAL CALIPER	FOWLER	NONE	005	0189	REECO	07/15/92	@REECO	6 MO.	GEOTECH
DIGITAL CALIPER	FOWLER	NONE	005	0189	REECO	08/08/90	02/08/91	6 MO.	GEOTECH
DIGITAL CALIPER	FOWLER	NONE	005	0189	REECO	02/01/91	08/01/91	6 MO.	GEOTECH
DIGITAL CALIPER	FOWLER	NONE	005	0189	REECO	06/13/91	12/13/91	6 MO.	GEOTECH
DIGITAL CALIPER	FOWLER	NONE	005	0189	REECO	12/23/91	06/23/92	6 MO.	GEOTECH
DIGITAL CALIPER	FOWLER	NONE	005	0189	REECO	07/15/92	01/15/93	6 MO.	GEOTECH

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**VERIFICATION OF CORRECTIVE ACTION REQUEST (CAR) YM-93-082**

Verification of corrective action was completed on 9/22/93 by Stephen Dana at the RSN Material Test Lab (MTL). The following objective evidence was verified:

- A. **REMEDIAL ACTION** - Reviewed the RSN Materials Testing Laboratory Test Equipment History Logs (attached) for the following equipment:

Equipment

1. Tinus Olsen, DOE No. 171442 (Note: number stated on the CAR is incorrect and should be 171442 instead of 171422).
  2. Mettler 2000, PTL No. W1063
  3. Digital Caliper, PTL No. W6189
- B. **INVESTIGATIVE ACTIONS** - See Remedial Action and attached History Logs.
- C. **ROOT CAUSE** - N/A
- D. **CORRECTIVE ACTION TO PRECLUDE RECURRENCE** - See Remedial Action.

Signature



Date: 9/23/93