OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT

YUCCA MOUNTAIN QUALITY ASSURANCE DIVISION

QUALITY ASSURANCE SURVEILLANCE REPORT OF

RAYTHEON SERVICES NEVADA

SURVEILLANCE YMP-SR-93-019

CONDUCTED MARCH 2, 1993

ACTIVITIES SURVEILLED:

IMPLEMENTATION OF SPECIFIC SURVEYING TASKS AND CALIBRATION STATUS OF SURVEYING INSTRUMENTS

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1.0 EXECUTIVE SUMMARY

This report contains the results of the Office of Civilian Radioactive Waste Management Quality Assurance (QA) Surveillance YMP-SR-93-019 of Raytheon Services Nevada (RSN) surveying activities. This surveillance was conducted on March 2, 1993 at the Nevada Test Site, near Trench 14. The surveillance was performed to evaluate the implementation of specific field surveying methods described in RSN procedure PP-01-03, Revision 0, and determine the calibration status of survey instruments being utilized. RSN surveying personnel effectively completed all specified requirements, and the calibration sticker on the survey instrument indicated calibration to be current and traceable to a national standard. No Corrective Action Requests (CAR) were generated as a result of the surveillance. RSN was satisfactorily implementing the procedural requirements evaluated during this surveillance.

2.0 SCOPE

This surveillance evaluated the effectiveness of implementation of specific surveying activities as required in the following RSN technical procedure:

PP-01-03, Revision 0, "Survey Department Work Functions"

3.0 SURVEILLANCE TEAM

Richard L. Weeks, Surveillance Team Leader, Yucca Mountain Quality Assurance Division (YMQAD), Las Vegas, Nevada
Raul Hinojosa, YMQAD, Las Vegas, Nevada
Fred Lofftus, YMQAD, Las Vegas, Nevada

4.0 PERSONNEL CONTACTED

Lee Watson, Manager of Field Operations, RSN
Brent Woolsey, Manager of Field Surveys, RSN
Mike C. Keough, Party Chief, RSN
Adam Boroski, Instrument Man, RSN
Ned Oxborrow, Chain Man, RSN
Bill Richardson, Chain Man, RSN

5.0 SURVEILLANCE RESULTS

This surveillance was performed to evaluate implementation of specific surveying tasks which are required by PP-01-03. At the time of the surveillance, two RSN Deficiency Reports (DRs 93-O-002 and 93-A-003) and one CAR (YM-93-032) had been issued to address deficiencies in the RSN surveying program. Deficient conditions addressed in the aforementioned

deficiency documents, other than determination of the calibration status of the specific surveying instrument used at the time of the surveillance, were not evaluated during this surveillance. Procedural requirements of the RSN surveying program not addressed during this surveillance, will be evaluated by a future surveillance as part of the verification of corrective action to the deficiency documents.

A marked-up copy of RSN procedure PP-01-03, Revision 0, was utilized for the conduct of this surveillance.

It was verified that the survey team utilized Controlled Manual No. 36, which contained current revisions of required technical procedures for conducting surveying activities.

The survey team was utilizing a Wild TC 1600 Total Station Distance Meter (Serial No. 708011). Calibration stickers indicated that calibration was completed by Longham Mathis and that calibration was traceable to a national standard. The instrument was last calibrated on February 10, 1993, with re-calibration required in one year.

Prior to beginning survey activities, the Instrument Man was observed completing an operational check of the instrument as required by the procedure. Prior to this check, checks by the Instrument Man to insure that the instrument was level and correctly positioned over the survey marker were observed (Paragraph 6.2.1). Upon completion of the above activities, a backsight (Paragraph 6.2.2) to a control point, Trench Southeast, was made to verify distance and bearing. All information was recorded (Paragraphs 6.2.5 and 6.11) by an on-board electronic recording module (Module No. 1), except for specific information which was recorded in the survey field notes (Survey Field Book YMP 46, Page 11). It was verified that a list of user/definer codes, relating to specific field data, was referenced by the instrument man prior to entering data in the electronic recording module (Paragraph 6.11). Finally, it was verified that the Data Collection File was created (Paragraph 6.11).

The observed activities were being completed in accordance with procedural requirements; therefore, implementation is considered satisfactory.

6.0 RECOMMENDATIONS

6.1 The reference section of procedure PP-01-03, Revision 0, should include references to technical manuals which describe standards of accuracy and standard survey methods (reference Attachment 4 and Section 6.2.3 of PP-01-03, respectively).