



DEPARTMENT OF ENERGY
Office of Civilian Radioactive Waste Management
Office of Geologic Disposal
Yucca Mountain Site Characterization Project Office
P.O. Box 98608
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WBS 1.2.11
QA

JAN 14 1994

William C. Kopatich
Technical Project Officer
for Yucca Mountain
Site Characterization Project
Raytheon Services Nevada
101 Convention Center Drive
Phase II, Suite P-250
Las Vegas, NV 89109

ISSUANCE OF SURVEILLANCE RECORD YMP-SR-94-016 RESULTING FROM YUCCA MOUNTAIN
QUALITY ASSURANCE DIVISION (YMQAD) SURVEILLANCE OF RAYTHEON SERVICES NEVADA
(RSN) AT THE YUCCA MOUNTAIN, NEVADA, SITE (SCP: N/A)

Enclosed is the record of Surveillance YMP-SR-94-016 conducted by the
YMQAD at RSN, Las Vegas, Nevada, facilities at the Yucca Mountain site on
December 14, 1993.

The purpose of the surveillance was to determine how the projects surveying
primary control points are documented in accordance within PP-01-04,
Revision 2, "Survey Group Document Control and Distribution."

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

If you have any questions, please contact either Robert B. Constable at
794-7945 or John R. Matras at 794-7197.

Richard E. Spence, Director
Yucca Mountain Quality Assurance Division

YMQAD:RBC-1567

Enclosure:
Surveillance Record YMP-SR-94-016

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ADD: Ken Hooks W. Encl.
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JAN 14 1994

William C. Kopatich

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cc w/encl:

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R. W. Clark, HQ (RW-3.1) FORS
J. W. Gilray, NRC, Las Vegas, NV
K. R. Hooks, NRC, Washington, DC
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,
Yucca Mountain Information Office, Eureka, NV
Lander County Board of Commissioners, Battle Mountain, NV
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OFFICE OF
 RADIOACTIVE WASTE MANAGEMENT
 U.S. DEPARTMENT OF ENERGY
 WASHINGTON, D.C.

QUALITY ASSURANCE SURVEILLANCE RECORD

SURVEILLANCE DATA

¹ORGANIZATION/LOCATION:
 RSN, Las Vegas

²SUBJECT:
 Project Surveying Primary Control Points

³DATE: 12/09/94

⁴SURVEILLANCE OBJECTIVE:
 Determine how the projects surveying primary control points are documented

⁵SURVEILLANCE SCOPE:
 Verify that projects surveying primary control points have been reviewed, checked and distributed as required by PP-01-04, Revision 2 and have been incorporated into a projects plot drawing, controlled under the Quality Assurance program.

⁶SURVEILLANCE TEAM:
 Team Leader:
John R. Matras
 Additional Team Members:

⁷PREPARED BY:
John R. Matras 12/13/93
 Surveillance Team Leader Date

⁸CONCURRENCE:
[Signature] 12/13/93
 QA Division Director Date

SURVEILLANCE RESULTS

⁹BASIS OF EVALUATION/DESCRIPTION OF OBSERVATIONS:

SEE ATTACHED PAGE 2 OF 2 gem 1/10/94
gem 1/10/94

¹⁰SURVEILLANCE CONCLUSIONS:

SEE ATTACHED PAGE 2 OF 2
gem 1/10/94

¹¹COMPLETED BY:
John R. Matras 1/5/94
 Surveillance Team Leader Date gem 1/5/94

¹²APPROVED BY:
[Signature] 1/13/94
 QA Division Director Date

ENCLOSURE

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On December 14, 1993, a surveillance was performed of Raytheon Services Nevada at the Nevada Test Site to verify the documentation of the YMP Primary Survey Control Points.

The following personnel were contacted during the surveillance:

Greg Bates, RSN, Survey Department Manager
Walter Candelaria, RSN, Survey Computer Operator
Randy Shriner, RSN, Engineering Manager
Frank Ennis, RSN, Associated Designer

It was verified during the surveillance, that RSN has documented revisions of the YMP Primary Survey Control Points in RSN Record of Verbal Communication, RVC:FE:93-016, dated 4/17/93. This work was performed in compliance with WI:91-024.

All data has traceability to the 4 First Order points located within the YMP Ranch Site. The values are in both NAD 27 Datum and NAD 83 Datum. This work is in compliance with PP-01-04, Revision 2, "Survey Group Document Control and Distribution", paragraph 6.1.9.

The software package STAR*NET V4.05, qualified in accordance with PP-19-07, Revision 0, "Certification of Computer Software", was used to verify the accuracy of the measured survey points. STAR*NET uses least squares methodology to calculate survey accuracies relative to all 34 YMP Primary Survey Control Points. All accuracies, as calculated by STAR*Net, met the positional accuracy for YMP Primary Control of 1:100,000, as required by PP-01-03, Revision 2, "Survey Group Work Functions".

These 34 YMP Primary Survey Control Points have been plotted on an RSN drawing. The drawing YMP-025-SUPT-GE107, Revision B, is currently in the comment/resolution cycle.

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RSN has complied with PP-01-04, Revision 2, in documenting, reviewing, checking and distributing the 34 YMP Primary Survey Control Points. RSN has verified that the 34 YMP Primary Survey Control Points meet the accuracy requirements for primary control of PP-01-03 by using the qualified software package STAR*NET. The 34 YMP Primary Survey Control Points have been incorporated into a RSN plot drawing, YMP-025-SUPT-GE107, which is presently in the comment/resolution cycle of PP-03-12. It is recommended that this drawing is issued as soon as possible for use by YMP.