OAK RIDGE INSTITUTE FOR SCIENCE AND EDUCATION

February 15, 2007

Mr. Anthony Gaines
U.S. Nuclear Regulatory Commission
Region IV: DNMS: NMLB
Suite 400
611 Ryan Plaza Drive
Arlington, TX 76011

SUBJECT: ANALYTICAL RESULTS FOR NINE SMEAR SAMPLES FROM COVANCE CLINICAL RESEARCH UNIT, INC. IN HONOLULU, HAWAII (INSPECTION REPORT #030-36585/2007-001) [RFTA NO. 06-001]

Dear Mr. Gaines:

The Oak Ridge Institute for Science and Education (ORISE) received nine smear samples on February 5, 2007 for carbon-14 (C-14) analysis from Covance Clinical Research Unit, Inc. in Honolulu, Hawaii. The smear samples were analyzed for C-14 (AP9, Revision 3) by liquid scintillation analysis (CP4, Revision 3). The C-14 measured activities were below the minimum detectable concentration (MDC). The C-14 MDC was 14 pCi/smear.

The original request for analysis listed the priority as routine. After a phone conversation with Rachel Browder on February 12, 2007, the priority was changed to urgent.

ORISE's Quality Control (QC) requirements were met for these analyses. The QC files are available for your review upon request.

My contact information is listed below. You may also contact Wade Ivey at 865.576.9184 with any questions or comments.

Sincerely,

Dale Condra

Dale Condra, Manager
Laboratory

RDC/WPI: km

c: T. Carter, NMSS/DWMEP 7J18
E. Knox-Davin, NRC/NMSS/TWFN T8A23
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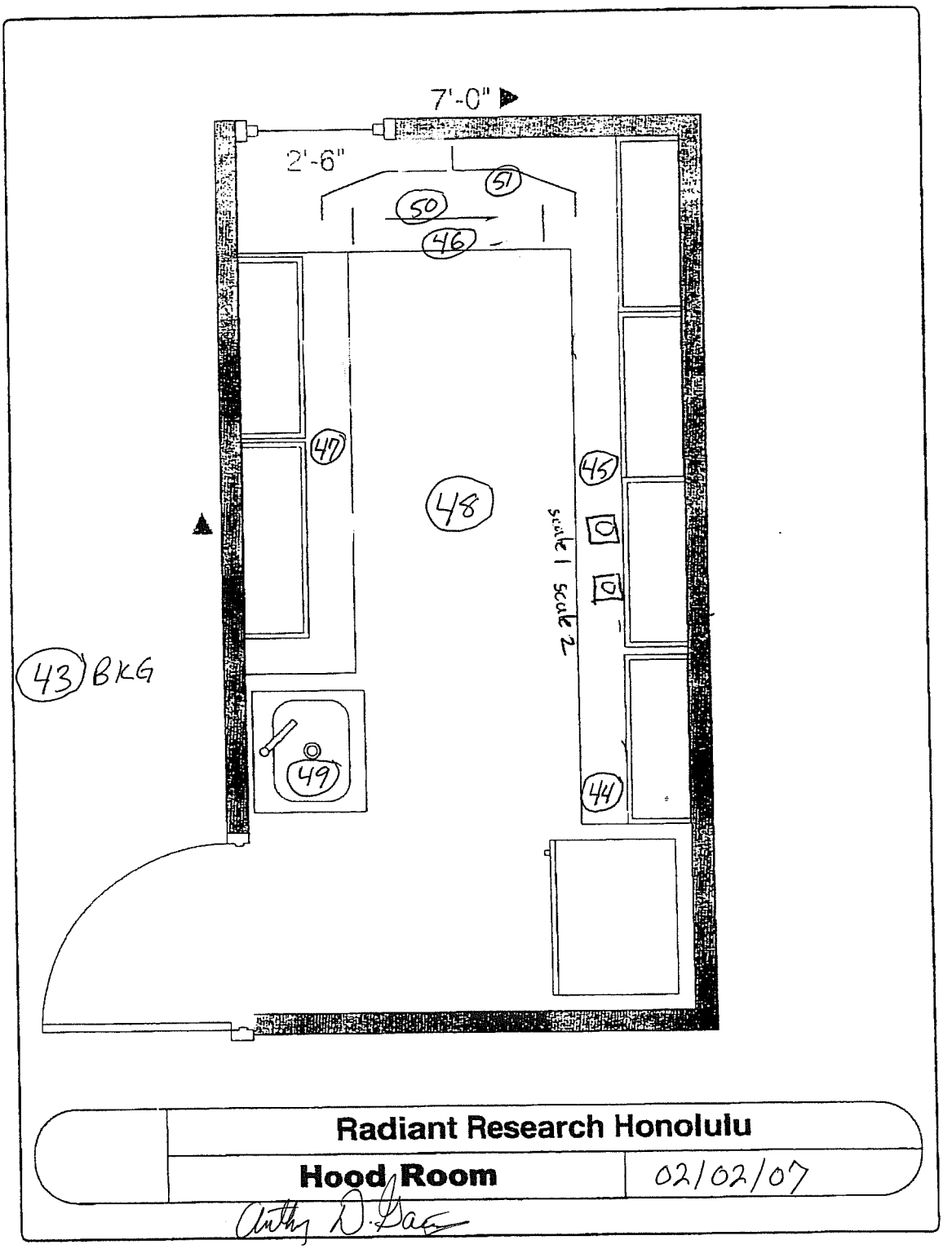

Survey Locations #43 – #51

4) Record the smear number, site, date, location of the smear, and name of sample collector on the envelope.

5) Label and secure the sample in accordance with Section 8.15 and the chain-of-custody procedure in Section 8.16. Record pertinent information on the Chain-of-Custody Form, (Figures B-9, B-12, or equivalent).

6) If the initial direct measurement was elevated, the smear should be monitored to determine whether contaminated material was transferred to the smear. If an activity level greater than 250 cpm is detected, the smear envelope should be marked as such.

NOTE: Smears having activity levels greater than 2500 cpm should be counted using field instrumentation and should be sealed in an appropriate container and marked to minimize potential for cross-contamination.

Low-Energy Beta Smear

1) If the survey objective is to determine if low-energy beta-emitters (such as C-14 or H-3) are present, an additional smear may be collected.

2) Pre-fill the appropriate number of scintillation vials with deionized water to approximately one-half volume.

3) Moisten the numbered side of a smear with deionized water from a scintillation vial.

7) Grasp the smear (filter) paper by the edge, between the thumb and index finger.

4) Applying moderate pressure with two or three fingers, wipe the numbered side of the paper over approximately 100 cm^2 of the surface.

5) Gently roll the smear to the approximate diameter of the opening of the vial with the numbered side facing out and place the smear inside the scintillation vial. Replace the cap.

6) A field blank should be prepared by placing an unused smear into a scintillation vial containing the deionized water used to moisten the smears.

7) Label and secure the sample in accordance with Section 8.15 and the chain-of-custody procedure in Section 8.16. Record pertinent information on the Chain-of-Custody Form, (Figures B-9, B-12, or equivalent).

8) If the initial direct measurement was elevated, the smear should be monitored to determine whether contaminated material was transferred to the smear. If an activity level greater than 250 cpm is detected, the smear envelope should be marked as such.

Field Sample Measurement

1) If the survey objective is to determine if radon or thoron daughter products or other short half-life radionuclides are present, the smears should be counted within 1-2 hours before significant decay of short-lived radionuclides has occurred.

2) If necessary, smears can be counted in the field using portable instrumentation (see Section 7).

3) Record count and counting time data on the appropriate record form (Figure B-9, B-12, or equivalent).

4) Determine the net count rate (N) by subtracting the background count (determined by counting a blank or unused smear) from the gross count rate.

$$N\ cpm = \frac{Gross\ Count - Background\ Count}{Time}$$

5) Substitute the value for N in the surface activity equation in Sections 7.3 and 7.4 for calculating the removable activity. Note whether the detector is monitoring for alpha, beta, or alpha plus beta. The value for geometry (G) will be 1, provided a 100 cm^2 area was wiped.

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