(3)

Bonnie Count

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

DEC 0 9 1994

The enclosure was not with the letter.

Count - pls check w/ B.D.

Bonnie - Pls transmit to Jorg via memo.

Ted

Mr. Joseph C. Vozella
Assistant Area Manager
Environment, Safety and Health Branch
Department of Energy
Los Alamos National Laboratory
Los Alamos, NM 87544

Re: RFI Phase Report, Operable Unit 1071, SWMU Aggregate 0-D
Los Alamos National Laboratory, NM0890010515

Dear Mr. Vozella:

The Environmental Protection Agency (EPA) has reviewed the RFI Phase Report dated March 30, 1994, for Operable Unit 1071, SWMU Aggregate 0-D, Ordnance Impact Areas and found it to be approvable. The primary problem associated with these solid waste management units (SWMUs) was unexploded ordnance (UXO) and ordnance explosive waste (OEW). The units which were impacted have had all UXO and OEW removed, and there appears to be no high explosive residue at the sites. Los Alamos National Laboratory (LANL) may request removal of the following SWMUs from the permit via a Class 3 permit modification: 0-011(a) and 0-011(c-c).

EPA has enclosed several suggestions which should improve future reports. In future reports, information related to background and data quality for analysis will be more crucial.

Should you have any questions, please contact Barbara Driscoll at (214) 665-7441.

Sincerely,

for William K. Honker, P.E.
Chief, RCRA Permits Branch

Enclosure

cc: Mr. Benito Garcia
Bureau Chief, Hazardous and Radioactive Materials Bureau
New Mexico Environment Department
Mr. Jorg Jansen
Program Manager, Environmental Restoration Program
Los Alamos National Laboratory, M992

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RFI Report Suggestions

1. Background information as presented for inorganics is not meaningful unless it can be demonstrated that the background data was collected at the same depth and from similar formations as the site samples. Future reports should indicate the location of background samples, and analytical methods including extraction methods used for those samples. LANL should also ensure that the methods used for extraction of soil samples is standardized, so that data is comparable.

2. Table 4 does not indicate which sample results are the original lead samples and which were taken later. Nor does the Table indicate which samples were collected from the upper granular versus underlying clay-rich layer.

3. If data has been qualified, for example found to be estimated or "J" data, this should be noted on the Tables.

4. Analysis results should be summarized as in Table 6 which indicates results for each sample, as opposed to Table 5 which shows the minimum, mean and maximum for a group of samples. The practical quantitation limit (PQL) or background values should be indicated on each table.

5. Analytical results should be compared with background or PQLs to determine if the extent of contamination has been defined.

APPENDIX 5.4

DATA FORM COMPLETION

Use a pen with black ink that is not water soluble (not a felt-tip pen). Make an entry in each blank. Where there is no data entry, enter UNK for Unknown, NA for Not Applicable, or ND for Not Done. If any procedure was not performed as prescribed, give the reason for the change or omission on the form. To change an entry, draw a single line through it, add the correct information above it, and initial the change.

DAILY ALPHA EFFICIENCY CHECK FORM

1. Facility Code. Five-character code abbreviating the facility name where program activity is being conducted. The first three characters indicate the facility, and the remaining two numbers designate the specific site within the facility.

2. Field Rep. The name of the field representative.

3. Logger Code. Three-character or four-character code identifying the company responsible for collecting the information recorded on the form.

4. Acceptance Code. One-character code assigned by the site manager.

5. Ratemeter/Scaler Model No. The model number of the ratemeter/scaler.

6. Ratemeter/Scaler Serial No. The serial number of the ratemeter/scaler.

7. Ratemeter/Scaler Calibration Date. The date when the ratemeter/scaler was last calibrated.

8. Window. The window is in the out position unless otherwise specified.

9. Threshold. The adjustment for the lower energy level of the discriminator shown on the calibration sticker.

10. High Voltage. The voltage that is applied to the detector shown on the calibration sticker.

11. Battery. The battery voltage reading at the beginning of the measurement.

12. Probe Model No. The model number of the alpha scintillation probe.

13. Probe Serial No. The serial number of the alpha scintillation probe.

14. Probe Calibration Date. The date when the alpha scintillation probe was last calibrated.

15. Source Serial No. The serial number of the radiation source.

16. Source Isotope. The radioactive isotope contained in the source and given as an element and mass number, like Am-241.

17. Source Activity. The activity of the radioactive source. An activity given in microcuries (μCi) can be converted to disintegrations per minute (dpm) using 2.22×10^6 dpm = 1 μCi.

18. Log Date. The date the information recorded on the form was obtained in the format DD-MMM-YY (01-JAN-88).

19. Time (HH:MM). The time the efficiency was determined using the 24-hr clock in the format hours:minutes.

20. Counting Time (Min). The time in minutes over which the scaler counts. Enter NA if using a ratemeter.

21. Background cpm. The count rate resulting from the 10-min background count.

$$\text{Background counts per minute (cpm)} = \frac{\text{10-min background count}}{10}$$

22. Gross Counts. The number of pulses recorded by the ratemeter/scaler during the 1-min source-counting time. Enter NA if using a ratemeter.

23. Gross cpm. The gross count rate of the source given in pulses per minute.

24. Net cpm. This is equal to the gross cpm minus the background cpm.

25. Efficiency (Net cpm/dpm). The ratio of the observed net count rate to the true disintegration rate (dpm).

$$\text{Efficiency} = \frac{\text{Net cpm}}{\text{Source dpm}}$$

ALPHA CONTAMINATION SURVEY DATA FORM

1. Facility Code. Five-character code abbreviating the facility name where program activity is being conducted. The first three characters indicate the facility, and the remaining two numbers designate the specific site within the facility.

2. Log Date. The date the information recorded on the form was obtained in the format DD-MMM-YY (01-JAN-88).

3. Logger Code. Three-character or four-character code identifying the company responsible for collecting the information recorded on the form.

4. Field Rep. The name of the field representative.

5. Acceptance Code. One-character code assigned by the site manager.

6. Ratemeter/Scaler Model No. The model number of the ratemeter/scaler.

7. Ratemeter/Scaler Serial No. The serial number of the ratemeter/scaler.

8. Ratemeter/Scaler Calibration Date. The date when the ratemeter/scaler was last calibrated.

9. Window. The window will be in the out position unless otherwise specified.

10. Threshold. The adjustment for the lower energy level of the discriminator. This is determined during calibration before instrument use in the field.

11. High Voltage. The voltage that is applied to the detector. The operating voltage for an alpha detector is typically 500 to 700 volts. The voltage is determined by a voltage plateau during calibration.

12. Battery. The battery voltage reading at the beginning of the measurement.

13. Alpha Probe Model No. The model number of the alpha scintillation probe.

14. Alpha Probe Serial No. The serial number of the alpha scintillation probe.

15. Alpha Probe Calibration Date. The date when the probe was last calibrated.

16. Date/Time of Eff Check. The date and time of the last efficiency check from the Daily Alpha Efficiency Check form.

17. Efficiency. Ratio of observed count rate to the known disintegration rate of the check source from the Daily Alpha Efficiency Check form.

18. Comments. Any additional information.

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19. Item Surveyed (Specify).. A description of the article swiped.

20. Instrument Reading (cpm). The count rate in counts per minute for the swipe.

21. Area Surveyed (cm^2). The swiped area measured in cm^2.

22. Adjusted Count Rate (cpm/100 cm^2). If the area swiped was 100 cm^2, this is the meter cpm reading. If the swiped area was not 100 cm^2, the cpm reading must be adjusted to cpm/100 cm^2 in order to apply the release limits from Appendix 5.5. The formula shown below is used.

$$\text{Adjusted cpm} = \frac{100\ cm^2}{\text{area swiped in } cm^2} \times \text{Instrument reading in cpm}$$

23. Contamination Level (dpm/100 cm^2). The surface contamination level in units of dpm per 100 cm^2. Because the swiped area was adjusted to 100 cm^2, the removable contamination level is the instrument reading divided by the efficiency.

$$\text{Contamination level (dpm/100 } cm^2) = \frac{\text{Adjusted cpm}}{\text{Efficiency}}$$

24. Within Release Limit? (Yes/No). The result of a comparison of the contamination level with the applicable release limit. The result may be abbreviated Y for yes if the measured contamination is less than the limit; N is used for no if above the limit.

Received by ER-RPF
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