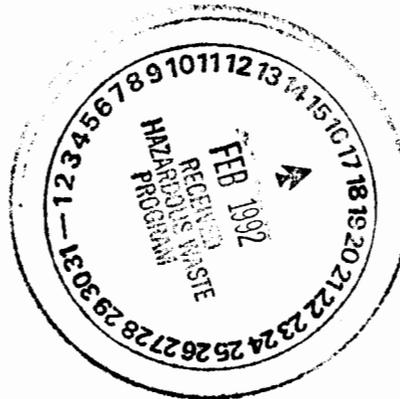


RCN 269-069-02
14 February 1992

Dr. Bruce Swanton
New Mexico Environment Department
1190 Saint Francis Drive
Santa Fe, New Mexico 87503



**Re: Reporting Limits and Health Based Levels for Sludge and Soil Sampling
Sewage Lagoon Investigation, Holloman AFB, New Mexico**

Dear Bruce:

This letter reviews the issues that were discussed in the teleconference held on 6 February regarding the 31 January 1992 letter prepared by Radian and sent to NMED for review.

The 31 January letter provided an excerpt (Table 3-2) from the Chemical Data Acquisition Plan (CDAP) that was prepared for the sewage lagoon investigation to be conducted during the next few months. The purpose of the letter was to bring up some issues for discussion that have been of concern to Radian in order to ensure that the upcoming activities conducted at the Holloman AFB sewage lagoons will proceed smoothly.

During our conference call, we discussed the 31 January letter and several issues surrounding the use of reporting limits and health based levels (HBLs). Our understanding of the appropriate way to address these issues is summarized below.

- 1) In cases where the tabulated HBL and calculated HBL for a given constituent are not equivalent, it is appropriate to use the calculated HBL.
- 2) There are two Appendix IX constituents that have been detected previously in the sewage lagoons that have no HBL--kepone and sulfide. For kepone, it was decided that 1.0 mg/Kg would be used as the HBL. This value (1.0 mg/Kg) is equal to one-half of the HBL for DDT. Sulfide was not discussed because it is not a contaminant of concern.
- 3) There are a number of Appendix IX constituents with an expected reporting level that is greater than the HBL listed in Table 3-2. For those constituents that have not been detected previously in the sewage lagoons,

this is not a concern. However, there are six constituents that have a reporting limit above the HBL and have been detected previously in the sewage lagoons. The six constituents in this category and their reporting limits and calculated HBLs are shown below:

<u>Constituent</u>	<u>Reporting Limit (mg/Kg)</u>	<u>HBL (mg/Kg)</u>
Anthracene	1	0.2
Benzo(a)anthracene	1	0.4
Benzo(a)pyrene	1	0.06
Benzo(b)fluoranthene	1	0.4
Benzo(k)fluoranthene	1	0.9
Pyrene	1	0.8

Slope factors are not available for many EPA Class B2 polycyclic aromatic hydrocarbons (PAHs), including anthracene, benzo(a)anthracene, benzo(b)fluoranthene, and benzo(k)fluoranthene. To derive an HBL for these compounds, a slope factor was calculated by multiplying the relative potency factor for each PAH by the slope factor for benzo(a)pyrene (11.5 mg/kg/day⁻¹). The relative potency factors and associated methodology are described in the EPA sponsored document Comparative Potency Approach for Estimating the Cancer Risk Associated with Exposure to Mixtures of Polycyclic Aromatic Hydrocarbons, Interim Final Report, ICF-Clement Associates, Fairfax, Virginia, April 1, 1988. The constituents listed in Table 3-2 for which the relative potency slope factor method was used to calculate the HBL are identified by a superscript "g."

The HBL listed in Table 3-2 (and above) for pyrene, 0.8 mg/Kg, was calculated using the slope factor from the January 1991 Health Effects Assessment Summary Tables. However, the January Integrated Risk Information Service (IRIS) no longer lists pyrene as a Class D carcinogen. Therefore, the appropriate method for calculating the HBL for pyrene is to use the reference dose (RfD), which results in an HBL of 2,400 mg/Kg (above the expected reporting limit of 1 mg/Kg). The HBL for pyrene to be included in Table 3-2 of the final CDAP will be 2,400 mg/Kg, instead of 0.8 mg/Kg.

Therefore, the only constituent previously detected in the sewage lagoons for which the HBL is truly below the expected reporting limit is benzo(a)pyrene. The expected reporting limit for benzo(a)pyrene is 1 mg/Kg, while the HBL is 0.06 mg/Kg. However, as mentioned in the 31 January letter, Radian will be using standard analytical procedures for the sewage lagoon investigation, and, as a result, we believe that the goals of the project will be met.



We hope that this letter, in conjunction with the 31 January letter, provides sufficient information to allow NMED to evaluate the issues of concern and to reach a consensus with Radian on the appropriate approach to be followed for the sewage lagoon investigation. As we mentioned during our telephone call, we will be collecting sludge samples during the weeks of February 17 and 24. Therefore, after discussing these issues with your supervisor, please provide Holloman AFB a written response at your earliest convenience in order to complete the base's documentation.

Thank you for your help in this matter. If you have any questions or need to discuss this further, please contact me or Cris Hine.

Sincerely,

A handwritten signature in cursive script that reads "Cris Hine".

for Wally Hise
Program Manager

cc: Ms. Sharon Moore/Holloman AFB
Mr. Ron Stirling/USACE
CL Hine/Radian
EJ Hixson/Radian
JS Gibson/Radian