

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

REGION 2
7000 HEINZ AVE., SUITE 200
BERKELEY, CA 94710-2737

October 12, 1995

N00217.003140
HUNTERS POINT
SSIC NO. 5090.3



Engineering Facilities Activity, West
Attn: Mr. David Song [1832.3]
900 Commodore Drive
San Bruno, California 94066-5006

Dear Mr. Song:

RADIATION INVESTIGATION OF THE INTERTIDAL AREAS SURROUNDING THE INDUSTRIAL LANDFILL AND BAYFILL, DRAFT SAMPLING AND ANALYSIS PLAN HUNTERS POINT ANNEX

The Department of Toxic Substances Control is forwarding enclosed comments from the Department of Health services for your consideration.

Should you have any questions regarding this letter and would like to seek clarification, please call me at (510) 540-3821.

Sincerely,

A handwritten signature in cursive script that reads "Cyrus Shabahari".

Cyrus Shabahari
Project Manager
Office of Military Facilities

Enclosure

cc: US EPA, Region IX
Attn: Claire Trombadore
Mail Code H-9-2
75 Hawthorne Street
San Francisco, California 94105



Department of Health Services (DHS)

Comments on Hunter's Point document: "Radiation Investigation of the Intertidal Areas Surrounding the Industrial Landfill (IR-01) and the Bay Landfill Area IR-02, Draft Field Sampling and Analysis Plan"
(DTSC/DHS Document # 156)

General Comments

This review pertains only to the draft field sampling and analysis plan for the intertidal areas of IR-01 and IR-02. Additional comments may be forthcoming as the requested information and any additional portions of this document are received. This field investigation is to evaluate whether migration of radioluminescent dials and gauges (point sources) has occurred beyond the margin of the landfill areas and does not address remedial actions to be taken.

The seven page document sent for review does not explain how the offshore sampling is going to answer whether migration has occurred beyond the margin of the landfill areas. If the objective of this sampling is to retrieve point sources for laboratory analysis, the sampling described would be hit or miss at best. It is unclear what the offshore field sampling and analysis plan submitted hopes to accomplish. Without documentation and careful adherence to established procedures and guidelines any results obtained from this plan would be questionable. Therefore, concurrence with the document is being withheld until the objectives have been clarified and the following comments addressed.

In order to adequately evaluate this plan the following information is needed:

1. Copies of PRC Environmental Management, Inc.'s standard operating procedures used for sampling, laboratory analysis, instrument calibrations and checks, and laboratory QA/QC procedures; (Reviewer has already requested a copy of PRC Environmental Management, Inc.'s Ionizing Radiation Protection Program which may contain some of this information.)
2. Specific information on the instruments to be used, such as, manufacturer and model number for the meters and probes; How do these meters respond to radium radiation emissions? How was it determined that these instruments could adequately detect subsurface radium contamination?
3. Copy of off-site laboratory's procedures for gamma spectroscopic analysis, including QA/QC procedures and sample processing (i.e., drying, grinding, etc.) procedures. Will point sources be removed from sediment before sediment is analyzed?

Specific Comments

The following questions and concerns which need to be addressed in the final field sampling and analysis plan (SAP) before sampling occurs.

1. (Page 2, Section 3.1, Sample Location Methods.) What criteria and methods were used to select the sample spacing and location of samples to adequately determine whether and to what extent migration of radium-containing materials has occurred? What is the statistical basis for this selection of sample spacing? Discuss how the sample data will be used in the survey report.

2. (Page 3, Section 3.2, Intertidal Sediment Sampling.) With only one sample collected at each sample location, will there be enough data to determine that migration of radioactive source material has not occurred? Will any background samples be similarly collected for comparison? If so, where would these samples be collected?

3. (Page 6, Section 3.2.1.2, Surface Sediment Sample Collection Methods.) Describe the Van Veen sampler and the expected point source geometry. How large of a sample volume will be collected? (10 cm x 10 cm x 6" ?) Will water siphoned from the Van Veen sampler be collected and analyzed? Is there any information regarding the solubility of Radium-226 from the point sources in salt water? How stable is the radium paint on the point sources?

4. (Page 6, Section 3.3, Sample Analysis.) How was it determined that one duplicate would be collected as a QC sample? Should there be additional replicate samples? How does the number of replicates relate to the statistical sampling model?

5. (Page 6, Section 3.4, Radiation Monitoring.) Calibration procedures were not included in this SAP. (See NUREG/CR-5849, Section 5.4.) Reviewer was asked to find this information in previous documents. Further review of a previous document dated March 27, 1995, "Results of Subsurface Radiation Investigation in Parcels B and E, Draft Report, Volume I, Main Report and Appendix A", (Page 21, Section 2.8.) revealed the following:

a. Reviewer found no mention of instrument calibrations performed or documented.

b. Check sources of cesium-137 and thorium-230 were used for daily instrument checks. Daily instrument checks are good, but are not calibrations. There was no mention of using correction factors or of using a Ra-226 (the radionuclide of concern) source to determine Ra-226 efficiencies for each instrument and probe. Calibration sources should be traceable to National Institute of Standards and Technology (NIST) standards.

c. The efficiencies of each instrument should be reported. A conversion from cpm to dpm is required for interpreting the data.

6. (Page 7, Section 3.4, Radiation Monitoring.) "Elevated count rates" should be defined and quantified for each instrument in the established guidelines.

7. (Page 7, Section 3.4.1, Background Radiation.) How will the inside of the radiation counting room in Building 813 compare to environmental background levels? What is the average background reading for this room? Why was the counting room chosen as a background area rather than an uncontaminated outdoor area with the same soil or sediment type?