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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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February 15, 2000

Mr. Michael Thompson
U.S. Department of Energy
P.O. Box 550, MSIN: K7-50
Richland, Washington 99352

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EDMC

Dear Mr. Thompson:

Re: Identification of a New Site-Wide Tritium Plume Based on Concentration Data
Upgradient and Downgradient from the 618-11 Burial Ground during the 1970s and
1980s

At several meetings with the U.S. Department of Energy (USDOE) and its contractors, the issue of tritium values from groundwater monitoring wells located immediately downgradient from the 618-11 Burial Ground has been discussed. At a recent meeting with the Hanford Advisory Board Environmental Restoration Sub-Committee (HAB-ER), the USDOE suggested that tritium concentrations from groundwater monitoring wells 699-13-1B and 699-13-1A (found during the late 1970s and early 1980s) were due to the tritium groundwater contamination plume associated with historical releases from the 200 Area Plateau.

The Washington State Department of Ecology (Ecology) has conducted an initial review of data currently available in the Hanford Environmental Information System (HEIS) database and numerous tritium distribution maps provided by USDOE to Ecology as Hanford groundwater monitoring reports. Based on the information available to Ecology at this time, the above referenced conclusion is inaccurate. In particular, a review was made of tritium concentrations from a number of groundwater monitoring wells (e.g., 699-10-E12, 699-14-E6P, 699-14-E6Q, 699-14-E6R, 699-14-E6S, 699-14-E6T, 699-15-15A, 699-15-15B, 699-15-26, 699-17-5, 699-18-21, 699-20-20, 699-21-6, 699-27-8, 699-8-17, 699-8-25, and 699-9-E2). These wells are located in the general vicinity of the 618-11 Burial Ground. While high tritium concentrations were noted in several wells (699-20-20, 699-15-26, and 699-18-21) upgradient to the 618-11 Burial Ground, the dates and concentrations of the tritium values do not correlate well with those tritium values from groundwater monitoring wells located immediately downgradient from the 618-11 Burial Ground. General tritium concentrations and distributions over time were the most important considerations in Ecology's evaluation. In Ecology's opinion, there appears to be a 200 Area Plateau tritium plume containing significantly elevated observations associated with wells 699-20-20, 699-15-26, 699-18-21 that can be separated from the tritium plume downgradient from the 618-11 Burial Ground. These observations are consistent with the tritium plume and water-table mapping as depicted by several recent Hanford Site Annual Reports.

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The USDOE and U.S. Environmental Protection Agency (USEPA) are currently evaluating cleanup options for the 618-11 Burial Ground. If Ecology has any concerns associated with the cleanup of the tritium source site, Ecology will direct those concerns to the USEPA. This letter addresses only the discovery of a new tritium plume as a site-wide groundwater contamination issue and its potential impacts to the Columbia River.

Therefore, Ecology requests that an evaluation be performed of the tritium concentrations and occurrences in relation to wells located at and around the 618-11 Burial Ground. This evaluation must determine if the elevated tritium observations of the 1970s and 1980s occurring in wells 699-13-1A and 699-13-1B are attributed to releases from the 618-11 Burial Ground or from the 200 Area Plateau. The results of this evaluation must be submitted to Ecology by March 21, 2000.

If you have any questions about this request, please contact Dib Goswami at (509) 736-3015.

Sincerely,



Dib Goswami, Ph.D.
Sitewide Groundwater Coordinator
Nuclear Waste Program



Dr. Alex Stone
300 Area Project Manager
Nuclear Waste Program

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