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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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October 1, 1993

Mr. John Browne
P.O. Box 1434
Vashon, WA 98070



Dear Mr Browne:

Thank you for your letter regarding the 100 Area Excavation Treatability Test Plan. 28272
Enclosed please find responses to your questions.

Generally, "soil washing" refers to a technology that removes certain types and levels of contamination from excavated soil by exposing the soil to solvents that chemically precipitate (remove) the contaminants, thereby reducing the volume of contaminated soil that requires disposal. The type of solvent needed greatly depends upon the chemical and physical nature of the soil and how the contaminant is interacting with the soil. Any chemicals used for this purpose are controlled throughout the soil washing process. Ideally, the water and chemicals used can be recycled back into the process. If not, any additional waste streams created from the soil washing process will be regulated and disposed of pursuant to state and federal regulations.

In some situations, volume reduction may be better achieved by physical separation. This is accomplished by running the bulk excavated soil through a series of screens and water sprays that, when properly coordinated, isolate the desired soil fraction (e.g., the most highly contaminated) from the clean portion. If sufficient volume reduction is obtained by separation, then chemicals will not be required and will not be used. Reducing the volume of disposable soil through non-chemical processing is a major goal of additional testing that is directly tied to this program.

Combinations of both physical separation and chemical solvents often give the most efficient volume reduction.

As far as "letting sleeping dogs lie . . .," this approach is being considered for some of the soil contamination on the Hanford site. Natural attenuation can only be considered in specific situations that create low risk.

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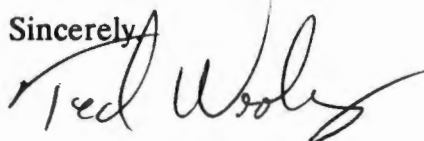
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Technologies for stabilizing the waste in place (e.g., in situ vitrification, grouting, and capping in place) are being developed on an ongoing basis. This type of remediation is not acceptable if unrestricted land use is desired and therefore inappropriate for the 100 areas.

The issue of developing dust control techniques is important if large scale excavation is going to be used. It is true that dust storms in the summer are a fact of life in Tri-Cities. Dust control measures for onsite personnel must be maintained pursuant to federal law (e.g., 29 CFR 1910, subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administrative). Additionally, there must be efforts made to avoid cross-contaminating adjacent waste sites. This may not be a problem if the amount of soil being excavated is a few thousand cubic yards. It is realistic to say that the 100 Areas alone will generate in the millions of cubic yards. It is also safe to say that developing dust control measures is an insignificant portion of the total cost of this test.

If you have additional questions on soil washing as a technology, I would like to recommend a document entitled 100 Area Soil Washing Treatability Test Plan (DOE/RL-92-51). This document can be reviewed through the Department Of Energy's reading room located at Washington State University, Tri-City campus, Richland, WA.

Sincerely,



Ted Wooley
Unit Manager
Nuclear & Mixed Waste Management Program

TW:mf

cc: Eric Goller, DOE
Dennis Faulk, EPA
Administrative Record

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Subject: 100 AREA EXCAVATION TREATABILITY TEST PLAN

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