For Approval Of

| Name | Approved | Date |
|---|---|---|
| PA Eddy | PAE | 5-31-84 |
| PE Bramson | PEB | 5-31-84 |
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| | | |

Project Number _____

Internal Distribution

PE Bramson
PA Eddy
FILE
LB

May 31, 1984

Mr. Eric Greager
UNC Nuclear Industries
P.O. Box 490
Richland, WA 99352

Dear Eric:

As you requested, I have studied the area in the vicinity of the 107 Building to determine the best locations for any new monitoring wells needed for this facility. I have found that the existing wells will be useful in monitoring the 107 Building but are not sufficient; I would recommend installation of two new monitoring wells.

Because of the 107 Building's proximity to the river, the flow directions of ground water beneath the building probably vary with time. When the river is high for a sustained period (such as in the spring months), water from the river infiltrates the bank, and the primary direction of flow is inland, at least for some distance. Later in the year, the river level drops, allowing the ground water to flow toward and enter the river. Because of this variation with time, it would be difficult to choose one location that would be sufficient to detect a contaminant plume in the ground water resulting from leakage at this facility. Therefore, monitoring wells are needed on both the river and inland sides of the building. One of the existing monitoring wells (199-N-23) is in a good location to cover the inland side of the building. However, there are no monitoring wells on the river side. Because of the variable flow directions, I would recommend that you install two wells on this side (one well near each corner of the building, within the space between the two fences). If you have funds to install only one well, the most important well is the one at the northern corner on the river side of the building.

I would recommend that you install six- or eight-inch wells. They should be drilled to a depth of twenty feet below the water table. (The total depth will probably be about 60 to 70 feet.) The wells should be screened from just above the water table to the bottom of the hole.

Please let me know if I can be of further assistance to you.

Sincerely,

Leigh S. Prater

Leigh S. Prater
Research Scientist
Environmental Evaluations Section

LSP:gd