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Westinghouse  
Hanford Company

RDI/JKE

P.O. Box 1970 Richland, WA 99352

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May 17, 1990

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Mr. R. D. Izatt, Director  
Environmental Restoration Division  
U.S. Department of Energy  
Richland Operations Office  
Richland, Washington 99352

Dear Mr. Izatt:

ACTION ITEM NUMBER 2BP1.30 FROM THE APRIL 18, 1990 200-BP-1 OPERABLE  
UNIT MANAGERS MEETING

At the 200-BP-1 Operable Unit (OU) Managers Meeting held on  
April 18, 1990, Westinghouse Hanford Company (WHC) Geosciences Group was  
requested to provide a formal written proposal detailing the procedure  
for drilling, and leaving the wells "unsealed" for up to nine months at  
the 200-BP-1 OU (Action # 2BP1.30). The wells would be "unsealed" for  
this time because no permanent annular seal would be emplaced around the  
temporary well casing.

Leaving the wells in this configuration for nine months is expected to  
achieve two goals: it will allow time to resolve disposition of large  
volumes of purgewater produced during aquifer testing, and provide a  
larger diameter well for aquifer testing. These concerns are described  
in more detail below.

The WHC currently is minimizing purgewater volumes because of requirements  
and costs for the disposal/treatment of these waters when they contain  
listed waste. For this reason, constant discharge aquifer tests which  
produce large volumes of purgewater are not being conducted on the Hanford  
Site at this time. This is problematic, however, because aquifer tests  
are needed for the 200-BP-1 site to obtain necessary hydrologic parameters  
for contaminant transport models and to help conceptualize the site  
hydrogeology, as stated in the 200-BP-1 work plan.

The wells are to be left in the "unsealed" or temporary configuration with  
the temporary eight inch carbon steel casing, so eventual aquifer testing  
can be conducted through large diameter wells. Currently, groundwater  
monitoring wells are completed with four inch diameter casing. In high  
yield aquifers, such as those expected at the 200-BP-1 site, higher  
discharge rates such as those produced through eight inch casing are  
needed to generate quality results. Accordingly, the wells need to  
remain in a temporary configuration until aquifer testing can proceed.

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To achieve both of these goals, WHC proposes that the following approach be used in the construction and testing of these wells at the 200-BP-1 OU.

Wells 299-52-54, 299-52-57, and 299-55-55 will be drilled to total depth as per the well specification (WHC-S-014) and in accordance with data requirements in the 200-BP-1 work plan. When total depth is reached with eight inch temporary carbon steel casing, an eight inch telescoping stainless steel screen will be installed. Fifteen feet of the screen will extend below the water table and five feet above. The temporary casing will be backpulled to the top of the screen and sealed with a packer. The wells will remain in this configuration for about nine months during which three groundwater samples will be collected and analyzed for contamination.

After nine months an evaluation of the data will be made to determine if background chemistry is sufficiently established to determine whether contamination is present. The regulatory agencies reserve the option to request additional sampling if background chemistry is not sufficiently established. If evaluations are favorable, aquifer testing will proceed. Following aquifer tests the wells will be completed with permanent materials as per the well specifications.

Several conditions are assumed to exist for this scenario to be implemented:

1. It is assumed disposal of aquifer testing purgewater will be resolved within the nine month monitoring period. If the purgewater issue is not resolved within the nine month monitoring period, the wells will be completed with permanent materials and no aquifer testing will be conducted.
2. When drilling reaches the groundwater, a sample will be taken and analyzed for contamination. It is assumed that contaminant levels will not exceed the criteria for disposal to the ground surface [that is, levels will be less than ten times the maximum contaminant level (MCL)] as outlined in the draft purgewater strategy document. If contaminant levels exceed this criteria, aquifer testing will be cancelled. The well will then be completed with permanent materials.
3. It is assumed that quarterly groundwater analysis results will not exceed the surface discharge criteria. If groundwater analysis results do exceed the surface discharge criteria for purgewater, aquifer testing will be cancelled. The well will then be completed with permanent materials.

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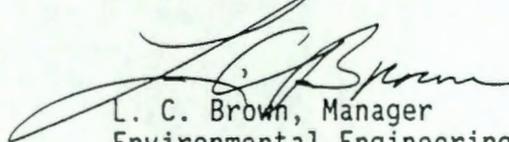
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4. After drilling to total depth, if the transmissivity of the aquifer is estimated to be sufficiently low, so only a few thousand gallons of purgewater would be discharged during testing, an aquifer test can be conducted at that time (given a satisfactory condition two above). The well will then be completed with the permanent materials.
5. The well head will be protected per Washington Administrative Code (WAC) 173-160-510 standards for the nine month period.

Concern was expressed in the unit managers meeting over possible time requirements for completing a well with permanent materials. In reviewing WAC 173-160, WHC finds no specific requirement for completing a well within a given time period.

Given the above described scenario and work controls, WHC believes that this approach integrates the concerns over leaving temporary wells in place and requirements for characterization. It is hoped this approach will achieve the desired goals of all concerned parties.

Very truly yours,



L. C. Brown, Manager  
Environmental Engineering, Technology  
and Permitting Function

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