

# START

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To: Paul Day, EPA A7-70  
Chuck Cline, Ecology  
Syd Koegler, PNL P7-44  
Garry Rosenwald, DOE A6-80

7-24-89

From: John Sands, DOE JS

cc:

Ronald D. Izatt, DOE-ERD A6-95  
Roger D. Freeberg, DOE-ERD A6-95  
Elizabeth A. Bracken, DOE-ERD A6-95  
Ronald E Gerton, DOE-WMD A6-80  
H. E. (Hank) McGuire, WHC H4-51  
Roger Stanley, WA Department of Ecology  
Hanford Project Manager  
Larry Goldstein, WA Department of Ecology  
Administrative Record [Care of Susan Wray, WHC H4-51C]

Enclosed are the meeting minutes for the 116-B-6-1 ISV Demonstration Project and final comments on the 116-B-6-1 Site Characterization Plan from Ward Staubitz (USGS).



## MEETING MINUTES

A meeting was held on 7/14/89 between DOE, EPA, WDOE, and PNL to review the suitability of the 116-B-6A Crib for the ISV demonstration test, because chrome concentrations were lower than expected in the crib soil. Syd Koegler (PNL) presented the status of the site characterization work (attached handout). Mr. Koegler explained that the main objectives of the ISV test are to:

- \* fix fission product constituents in soil
- \* fix or destroy hazardous chemical constituents in soil
- \* vitrify a crib containing wooden timbers
- \* test methods to increase the depth capacity of ISV.

Mr. Koegler also explained that the preliminary characterization data shows that the 116-B-6A Crib will permit us meet these objectives. Although the chrome levels are near background soil concentrations (40 - 60 ppm) there is still enough chrome to determine chrome retention in the melt during processing and in the final product. In addition, lead concentrations are higher in the crib than in the surrounding soil and HAZWRAP has given approval to emphasize lead instead of chrome in the ISV demonstration test. Both Paul Day (EPA) and Chuck Cline (WDOE) concurred with continuing the work at the 116-B-6A crib. Mr. Day observed that the economics of injecting material into the crib to enhance ISV operation is important and should be addressed in the analysis of the ISV test results.

The site characterization plan was also discussed. There was some discussion of the background soil samples. Emily Pimentel (PRC Environmental Management) was concerned with possible horizontal contamination of the background soil samples from the crib. Mr. Koegler explained that the porous nature of the soil in the crib area enhances downward moisture migration. This is supported by the soil results from the borehole 10 ft outside the crib which showed no contamination down to a depth of 35 ft, and hence, no evidence of lateral migration. Mr. Day emphasized that background soil samples be taken at depths similar to the crib. Mr. Koegler responded that although the background samples to date have been taken near the surface (<5 ft) additional background samples will be taken during groundwater well drilling. Mr. Day also asked if radionuclide contamination in the soil affects the x-ray fluorescence analysis. Mr. Koegler will check with the PNL analytical people. Mr. Day and Mr. Cline had no additional comments on the Site Characterization Plan.

However, Ward Staubitz (USGS) will review the groundwater well placement and will contact John Sands (DOE) early next week with any comments. Groundwater well drilling will be set aside until these comments (if any) are resolved. It was agreed that no formal concurrence was needed for the Characterization Plan. Therefore, verbal concurrence from Mr. Staubitz on behalf of Mr. Day would suffice for starting up ground water drilling.

Post Meeting Note:

Mr. W. Staubitz called Mr. J. Sands on 7-19-89 to give his comments on the ground water well drilling. His comments are attached. PNL will incorporate these comments, via page changes, into the Characterization Plan. PNL will also start ground water well drilling in accordance with the comments given.

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To: John Sands, USDOE - Richland

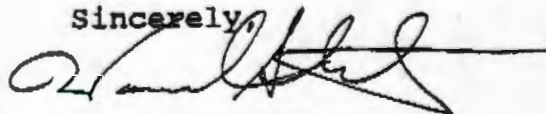
From: Ward Staubitz, USGS - Tacoma

Subject: Site characterization plan for ISV demonstration project

Date: July 19, 1989

As we discussed on the phone this morning, I am transmitting my comments on the proposed locations of monitoring wells for the ISV demonstration project. The ground-water gradient along streams that serve as ground-water discharge areas is often skewed in the down stream direction. An examination of Figure 11 indicates that ground water may indeed flow in a northeasterly direction in the vicinity of the 100-BC area. Ground-water levels measured in the 300 area indicate that this effect can occur greater than 3000 feet from the Columbia River. We therefore recommend adjusting the well locations noted in Figure 13 to better account for possible northeasterly flow. I have included a copy of Figure 13 with these recommended changes for your information. If you would like to discuss this further, I can be reached at FTS 390 6510.

Sincerely,



Ward Staubitz

cc:

Sid Koegler - PNL  
Paul Day - USEPA

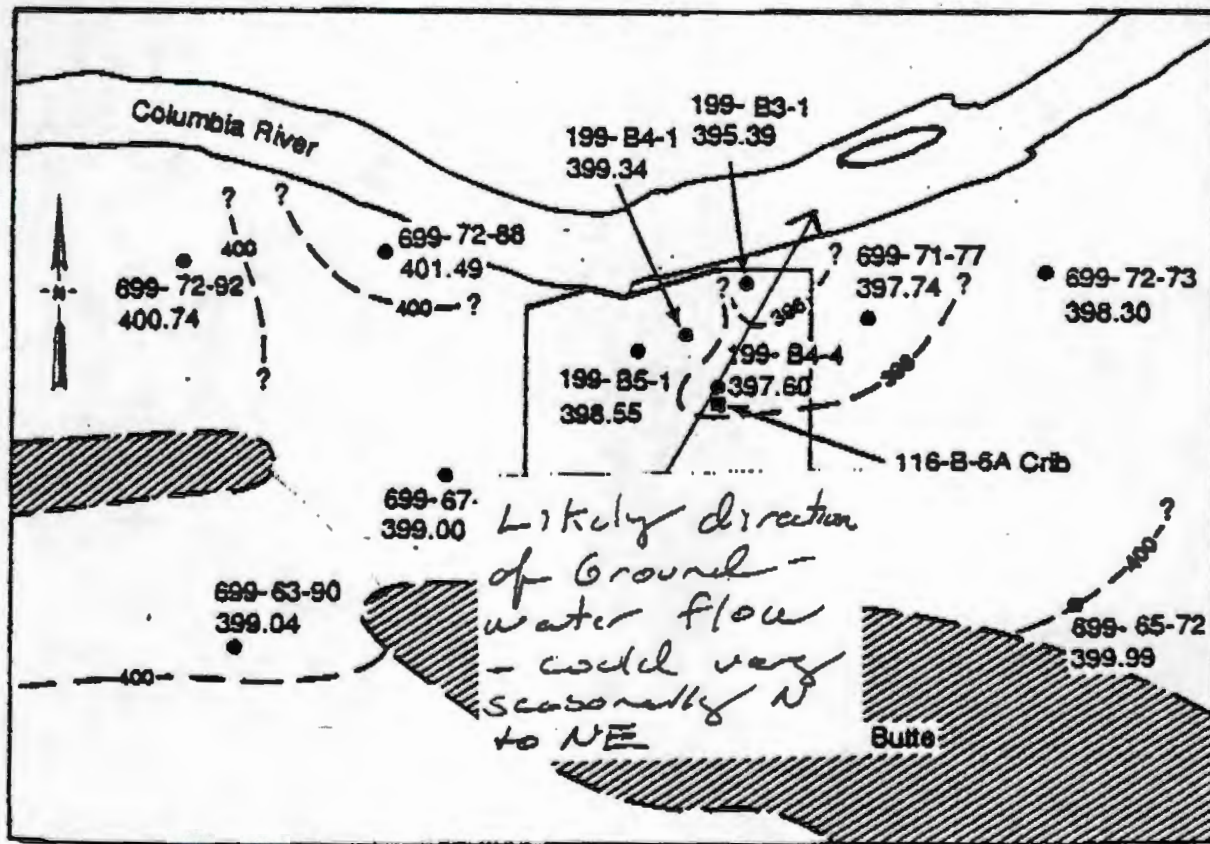
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SCP-13808, Rev. 1  
Page 15 of 40

inferred after examination of the Hanford Site water-table map (Evans, et al. 1988).

The precise direction of ground-water flow beneath the 116-B-6A crib is unknown. Figure 11 suggests that it is predominant extent of influence that changes in river stage have beneath the 100-B Area is not known. Pressure transducers in wells closest to the river (the well 199-B4-4) and 199-B4-1 (the well from these transducers is shown in Figure 12. This well 199-B4-4 is not affected by short-term river stage. Therefore, there is no reason to believe that there will be any reversals of the regional ground water flow direction (ie. northward) due to changes in river stage in the vicinity of the 116-B-6A crib. Further hydrologic data collection will be done as part of the 100-8C-1 RI/FS.

*Figure 12 does not allow drawing conclusions on larger-term seasonal gradient. Data include "short term" to be specific.*



— Water Table Contour in Feet Above Mean Sea Level (Contour Interval = 2 Feet)  
 ● Generalized Outcrop of Basalt Above the Water Table  
 ● Wells used in preparation of map.

0 1 2  
Miles

FIGURE 11. Water Table Map of the 100-B Area Measured on February 7, 1989



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encountered, the well will be drilled to a depth of 10 ft past any field-measurable contamination.

The ground-water monitoring wells will be located in the positions indicated in Figure 13. The wells will be drilled to a depth which is about 15 ft below the water table. This depth will allow for fluctuations in the water table and will monitor the upper part of the water table, which would be affected first by changes due to the ISV test. The water table is approximately 74 ft at the crib site. The ground water will be sampled before and after the ISV test to monitor possible effects of the test on the ground water in the immediate area of the crib.

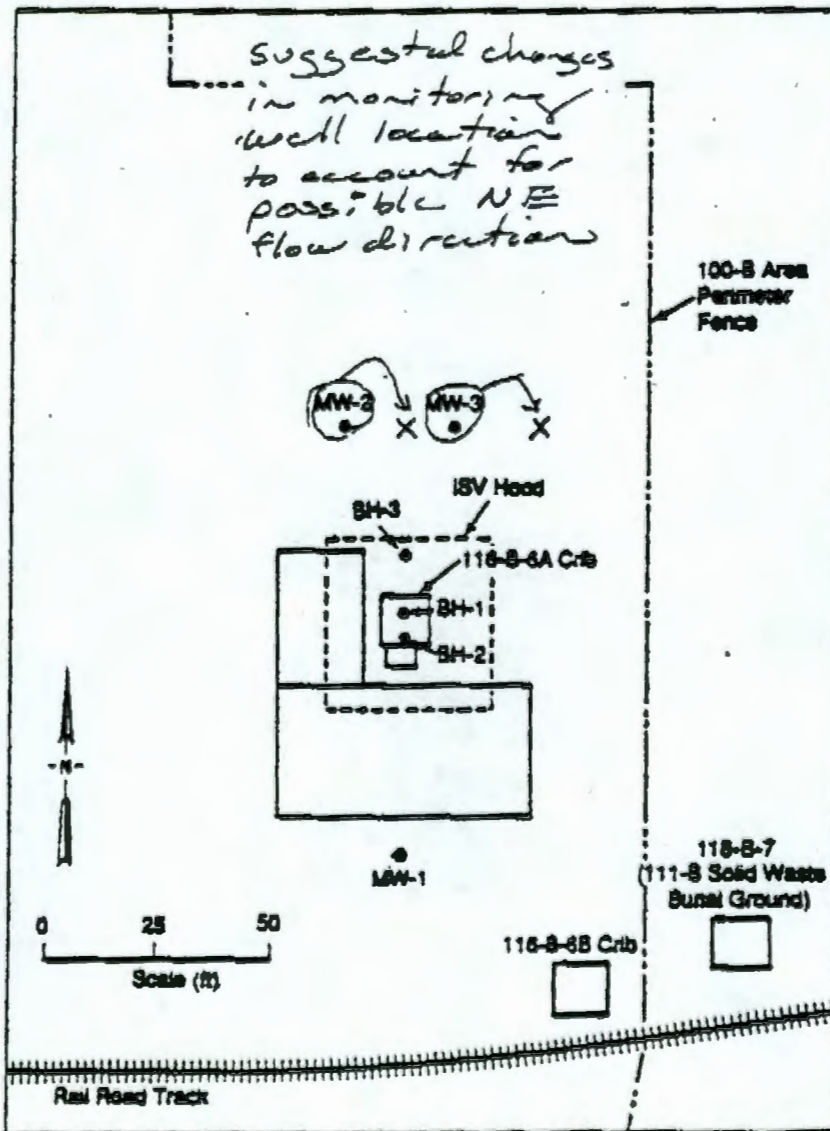


FIGURE 13. Map of the 116-B-6A Showing Proposed Borehole and Well Locations