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LETTER REGARDING REVIEW OF THE INTERIM MEASURE WORK PLAN FOR SITE 11& WORK PLAN SUBMITTED BY ABB NSB KINGS BAY GA
11/22/1993
U S DEPARTMENT OF THE INTERIOR

United States Department of the Interior

GEOLOGICAL SURVEY
Water Resources Division
Peachtree Business Center, Suite 130
3039 Amwiler Road
Atlanta, Georgia 30360-2824

November 22, 1993

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16.01.00.0010

Mr. Ed Lohr
Southern Division
Naval Facilities Engineering Command
2155 Eagle Drive, P.O. Box 190010
North Charleston, South Carolina 29419-9010

Dear Ed:

Review of the Interim Measure work plan for Site 11 at Kings Bay sub base (work plan dated September 1993) by ABB Environmental Services is complete. Most comments were in regards to the pumping rates anticipated in the planned aquifer tests, and were transmitted earlier in a letter dated November 1, 1993. Comments regarding the remaining part of the work plan are in the enclosure.

The enclosed comments relate mostly to well construction for the planned aquifer tests. In particular, the Navy and ABB could consider installing one or two additional wells open to depths below 90 feet to test the assumption that the base of the surficial aquifer is at 90 feet. Previous reports reviwed by USGS do not contain details as to how this lower boundary was established, and previous borings and hydrocone exploration holes evidently did not penetrate this depth.

Engineering details as to the construction and operation plans for the ground-water extraction and treatment system were not reviewed. These activities are considered to be outside the fields of expertise of the USGS.

Sincerely,

Bud Zehner

Bud Zehner
Hydrologist

Enclosure

#212

COMMENTS ON WORK PLAN WRITTEN BY ABB ENVIRONMENTAL SERVICES IN SEPTEMBER 1993 FOR REMEDIATION OF PROBLEMS AT SITE 11, KINGS BAY SUBMARINE BASE

Page 1-5, 4th paragraph. States that local ground-water mounding may be in the area of well 11-8. This interpretation may be incorrect -- see USGS review comments on RFI Interim Report for Site 11.

Page 3-1, 6th paragraph. States that a 1-inch diameter piezometer will be installed in the sand pack to determine well efficiency. Is this the only measuring point that will be used in the pumping well, or will measurements also be made within the 6-inch diameter casing of the pumping well? If water levels are not measured within the casing of the pumping well, the head losses due to turbulent flow through the screen, and through part of the sand pack, will not be measured and the well efficiency will be overestimated. Statements are made in several later sections of the report that the water levels will be measured "within the pumping well," but it is not clear if this refers only to measurements within the sand-pack piezometer, or if it also refers to measurements within the well casing.

Page 3-3, 3rd paragraph. States that planned observation wells are to be at depths 35 and 60 feet. Suggest that one or two observation wells be completed near pumping well RW1 at a depth greater than 90 feet, and water levels monitored continuously in the deeper wells during the aquifer testing. The purpose of the deeper wells would be to determine if the lower boundary of the surficial aquifer is actually at depth 90 feet, as was stated in the RFI report for site 11.

Page 4-4, 1st paragraph. Why are efforts being made to ensure that the pumping level does not drop below the top of the screen in each of the recovery wells?