UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

June 20, 2000

Mr. Richard Mach
Department of the Navy
Naval Facilities Engineering Command
Southwest Division
BRAC Office
1220 Pacific Highway
San Diego, CA 92132-5190

RE: EPA Review and Comment on the Draft Field Sampling Plan (FSP) and Quality Assurance Project Plan (QAPjP), for Phase I Groundwater Data Gaps, Parcels C and D, Hunters Point Shipyard, with a focus on Parcel D groundwater sampling effort

Dear Mr. Mach:

EPA has completed its review of the above referenced draft FSP and draft QAPjP for the Parcel C and D Phase I Groundwater Data Gaps sampling effort. This review focused on the Parcel D groundwater sampling effort. Comments are presented in an attachment to this letter. This is EPA's final comment letter on this draft deliverable. We appreciate the Navy's patience with EPA's need for three comment letters on this deliverable.

Should you have any questions about this letter, please contact me at (415)744-2409.

Sincerely,

Claire Trombadore
Remedial Project Manager

cc: Sheryl Lauth, EPA
Adam Klein, Tech Law
Chein Kao, DTSC
Brad Job, RWQCB
Jason Brodersen, TtEMI
Amy Brownell, City of SF
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EPA REVIEW AND COMMENT
DRAFT FIELD SAMPLING PLAN (FSP) AND
QUALITY ASSURANCE PROJECT PLAN (QAPjP)
PHASE I GROUNDWATER DATA GAPS INVESTIGATION
HUNTERS POINT SHIPYARD
FOCUS ON PARCEL D

GENERAL COMMENTS, OVERALL

1. EPA would like to reiterate that total dissolved solids (TDS) and yield data acquired during the Parcel D remedial investigation (RI) are available for A-aquifer groundwater on Parcel D. EPA believes that this data is sufficient to determine the portions of the A-aquifer on Parcel D that meet the definition of a potential drinking water source per Federal and state criteria. While it is prudent to resample RI monitoring wells and to fill data gaps for Parcel D groundwater, EPA is concerned that this effort will further delay the remedial action for Parcel D.

2. In the schedule presented in Table 8-1 of the FSP, there is no mention of a letter memorandum or other deliverable by which the Navy makes determinations of potential drinking water sources on Parcels C and D per Federal and state criteria. EPA has requested such a deliverable(s) be submitted by the Navy prior to the Navy's completion of the revised feasibility studies for Parcels C and D.

3. Did the previously completed inspections of the existing RI monitoring wells include video logging? Please clarify.

4. Please include the meeting minutes referenced in text in the list of references for the FSP and the QAPjP. The Navy should also consider including the actual meeting minutes in appendices. In this way there will a clear record in one location of the objectives and scope of the groundwater data gaps sampling effort.

5. The title of the FSP and QAPjP reference only Parcels C and D but upon review of the documents, monitoring wells on Parcels B and E appear to be included in the groundwater data gaps sampling effort. Please clarify.

6. How did the Navy select the number and locations of the B-aquifer monitoring wells for Parcel D? EPA is concerned that there may not be enough coverage of the portions of Parcel D where the bay mud aquitard is absent. Please clarify.

7. Please clarify that the Remedial Unit for Parcel D groundwater (RU-D1) per figure 4-3 does not necessarily represent one large plume and that it was proposed by the Navy at one of the groundwater working meetings and not in the RI for Parcel D.

GENERAL COMMENTS, FIELD SAMPLING PLAN

1. The Draft Field Sampling Plan, Phase 1 Groundwater Data Gaps Investigation, Hunters

Point Shipyard (the FSP) does not provide a specific discussion of the deficiencies or gaps in previous site characterizations that have created the need for this data gaps investigation. While some information regarding previous investigation activities at the different IR sites is presented in the Draft Quality Assurance Project Plan, Phase 1 Groundwater Data Gaps Investigation, Hunters Point Shipyard (the QAPjP), this information is insufficient to evaluate if the proposed field activities are sufficient to address the identified data gaps for each of the IR sites, or each of the groundwater plumes. Please revise the FSP to provide a discussion of the deficiencies or gaps in the past investigations performed at the different IR sites in order to facilitate an evaluation of the adequacy of the proposed data gaps investigation tasks.

2. Information regarding the objectives of the proposed data gaps investigation and background for the investigation has not been included in the FSP, but instead has been presented in the QAPjP. Consequently, it is necessary to read both documents in order to understand the nature and extent of the proposed field sampling program. While it may be appropriate to present this information in the QAPjP, it should also be presented in the FSP, to provide both the reader and field personnel with a better understanding of the project. Please revise the FSP to include information regarding the background and objectives for the proposed investigation.

3. The FSP does not discuss reporting or documentation of the findings of the proposed field activities. While Section 6.3 of the FSP discusses field documentation and input to a database, there is no mention of a report documenting the results and conclusions from the investigation, and there is no mention of any deliverables to the regulatory agencies. Please revise the FSP to include provisions for documentation and reporting of field activities and findings.

4. As part of the water level measurement program for the A-aquifer, water levels will be measured in 177 A-zone monitoring wells, in order to generate a more up-to date groundwater elevation contour map for the A-aquifer. However, top of casing (TOC) measurements will only be collected at 10 of these wells to confirm that the existing TOC measurements are accurate. This is less than 10 percent of the wells being included in the water level measurement program. Given that the objective of the water level measurement program is to generate the first basewide groundwater elevation contour map for the A-aquifer in over 4 years, and the importance of accurate TOC measurements for generating these groundwater elevation contours, confirming the TOC data at only 10 wells does not seem to be adequate assurance that the existing TOC measurements are accurate. Please revise the FSP to indicate that TOC measurements will be collected from at least 20 monitoring wells, to confirm that the existing measurements are accurate.

SPECIFIC COMMENTS, FIELD SAMPLING PLAN

1. **Section 2.0, Purpose and Objective, page 2:** Objective two listed in this section is to measure basewide water levels to determine the piezometric surface at existing A- and B-aquifer wells. However, the Step 2 (Identify the Decision) data quality objective (DQO) for this task listed in the QAPjP is to determine what is the current potentiometric surface

of the A-aquifer, and it is further stated in the DQO section that water level measurements will be collected from approximately 177 existing A-aquifer locations. Please revise the FSP to clarify if the objective of this task is to evaluate only the A-aquifer potentiometric surface, or if the B-aquifer potentiometric surface will also be evaluated as part of this task. Additionally, please clarify how many of the 177 monitoring wells proposed for water level measurements are in the A-aquifer, and how many are in the B-aquifer. Finally, please ensure that the objectives listed in the FSP are consistent with the objectives listed in the QAPjP.

2. **Section 2.0, Purpose and Objective, page 2:** Objective three listed in this section is to perform additional characterization of B-aquifers in Parcels C and D by sampling existing and newly-installed wells for hydrogeologic and chemical parameters. While the analytes of concern for the different wells are listed in Tables 4-4 and 4-5, there is no explanation in the FSP regarding what is meant by hydrogeologic parameters. Please revise the FSP to identify the hydrogeologic parameters that are to be investigated, the locations at which these parameters will be measured, the methodology for measuring and interpreting these parameters and the intended application of the data.

3. **Section 4.2, Water Level Measurement, page 5:** The first sentence on this page indicates that water levels will be measured at all wells identified for the basewide water level measurement, in accordance with the schedule presented in Section 8.0. However, Section 8.0 only refers to Table 8-1, and Table 8-1 does not contain any information regarding the schedule for the collection of water level data. Please revise the FSP to provide information regarding the schedule for water level measurement as part of this investigation.

4. **Section 4.2, Water Level Measurement, page 6:** The last paragraph of this section indicates that TOC elevations at 10 select wells will be measured to confirm previous survey measurements. However, the FSP does not discuss the criteria these data will be evaluated against, under what conditions corrective action will be taken, nor the nature of a corrective action response, if the new survey measurements do not agree with previous measurements. Page A-14 of the QAPjP (Section A1.4.5) describes the decision rules for the water level measurement study, the evaluation criteria, the criteria for corrective action and the type of corrective action that will be applied to the survey measurement data. Please revise the FSP to include information regarding the evaluation criteria, the criteria for corrective action and the type of corrective action that will be applied to the survey measurement data.

5. **Section 4.3.2, Initial Measurement of Organic Vapor and Dissolved Oxygen, page 6:** The FSP discusses the measurement of dissolved oxygen at three intervals within the water column in the wells to be sampled. Typically, dissolved oxygen is measured once in each well, or once at each discretely screened interval. The FSP does not explain the rationale behind taking three measurements within one water column. Please revise the FSP to explain the rationale behind the proposal to measure dissolved oxygen at three intervals within one water column.

6. **Section 4.3.3, Sampling Methods, page 7:** The middle of this paragraph indicates that purge water may be extracted from monitoring wells with a large water column using a variety of pumps, including a peristaltic pump. Peristaltic pumps are typically used for low-flow sampling, and generally do not operate at pumping rates that are suitable for purging wells with a large water column. Please revise the FSP to clarify how a peristaltic pump will efficiently extract purge water from wells with a large water column, or alternatively, please remove peristaltic pump from the list of wells that will be used for this purpose.

7. **Section 4.4, Well Installation, pages 8 and 9:** The text in this section indicates that B-aquifer monitoring wells will be drilled to a depth of approximately 75 feet below ground surface (bgs), and that wells will be drilled using either air rotary or mud rotary drilling methods. Additionally, this section indicates that pilot borings may be drilled prior to well installation, in order to optimize well screen placement. According to page A-12 of the QAPjP (Section A1.4.4, Step 4-Define the Study Boundaries), "The vertical limit of the B-aquifer study area is a depth of 5 feet below the bottom of the B-aquifer or to the bottom of VOC contamination, whichever is less." It appears that in order to satisfy this DQO, hydropunch samples should be collected from the pilot borings and analyzed for VOCs prior to installation of the B-aquifer monitoring wells, in order to ensure that the B-aquifer monitoring wells are screened to the bottom of the VOC contamination. Alternatively, the FSP should state that the pilot borings will be used to identify the bottom of the B-aquifer, and all of the B-aquifer monitoring wells will be screened to the bottom of the B-aquifer. Please revise the FSP to clarify how the proposed well installation methodology for the B-aquifer wells will be applied to ensure that the DQO regarding the spatial limits of the B-aquifer study will be achieved.

8. **Table 4-2, Results of Well Condition Survey:** This table lists wells IR07MWS-2 and IR18MW21A as needing top of casing survey measurements under the category "WELLS FOR WHICH ADDITIONAL SURVEY DATA ARE NEEDED" (page 1 of 5), and they are also listed as abandoned under the category "WELLS THAT ARE NOT AVAILABLE FOR SAMPLING" (page 3 of 5). Please revise Table 4-2 to explain or correct this apparent discrepancy.

9. **Tables 4-5 and 4-6:** Tables 4-5 and 4-6 present the rationale for resampling groundwater from monitoring wells in Parcels C and D. The following objectives are repeated for several wells in the list of rationale:

   - Conclusions from 2/7/00 and 3/16/00 BCT working meetings.
   - Obtain TDS data for beneficial use analysis.
   - Evaluate geology and hydrogeology of B-aquifer.

   However, the FSP does not explain these rationale, the conclusions from the working meetings are not discussed and an elaboration regarding how the geology and hydrogeology of the B-aquifer will be evaluated is not provided. Please revise the FSP to provide a more complete explanation of the general rationale listed above for resampling monitoring wells.

SPECIFIC COMMENTS, QUALITY ASSURANCE PROJECT PLAN

1. **A1.3.3, Phase I Groundwater Data Gaps Investigation, page A-4, last sentence.** After "since"please add "the Navy did not agree that".

2. **A1.3.3, Phase I Groundwater Data Gaps Investigation, page A-5, second paragraph, first sentence.** After "comments" please add "received on the beneficial use evaluations completed for Parcel D".

3. **Table A-2, Identification of the Seven Steps of the Data Quality Objectives Process, Task 1, page A-6:** The second bullet under Step 5 (Develop Decision Rules) for Task 1 (assess the condition of all existing wells) states that if a monitoring well has significant damage that is beyond repair, then the well will be abandoned, and if the well location is deemed necessary for future monitoring, then the well will be replaced. According to Table 4-2 of the FSP (Results of Well Condition Survey), the following wells will be abandoned, because of excessive silt inside the well: IR07MWS-2, IR01MWI-8 and PA36MW03A. Please clarify how the decision will be made whether or not to replace these wells, and how regulatory concurrence will be obtained.

4. **Table A-2, Identification of the Seven Steps of the Data Quality Objectives Process, Task 3, page A-7:** The first paragraph under Step 1 (State the Problem) for Task 3 (perform additional characterization of the B-aquifer in Parcels C and D) states that "The extent of contamination in the B-aquifer and its relationship to the A-aquifer at Parcels C and D (and, potentially, at a part of Parcel B) have not been evaluated..." Please clarify under what conditions would this task include an evaluation of the B-aquifer at Parcel B. This task is called characterization of the B-aquifer in Parcels C and D, and yet the sampling effort appears to include monitoring wells in Parcels B, C, D and E. Additionally, it is not clear if there are any new wells proposed for Parcel B. The last paragraph of Step 3 for this task indicates that new wells will be installed in Parcel B, but these wells are not listed anywhere in the QAPjP or the FSP. Please revise the QAPjP to indicate 1) under what conditions will existing Parcel B wells be included in the B-aquifer study, 2) if there are any new wells proposed for installation in Parcel B, or under what conditions might new wells be installed in Parcel B as part of this data gaps investigation, and 3) if there are new wells proposed for installation in Parcel B, the location of these new wells.

5. **Table A-2, Identification of the Seven Steps of the Data Quality Objectives Process, Task 3, page A-7:** The last paragraph under Step 1 for Task 3 states that "Furthermore, TDS and yield data are insufficient to evaluate if cleanup to drinking water standards is necessary." EPA does not necessarily agree with this statement (see General Overall Comment 1 above). Further, determination of the need to clean up an aquifer to drinking water standards is not solely dependant upon the beneficial use determination of an aquifer. For example, an aquifer classified as a drinking water aquifer may not require clean up to drinking water standards, because of other mitigating factors. Alternatively, an aquifer that is not classified as a drinking water aquifer according to the TDS and yield criteria may require clean up to drinking water standards, in order to protect an underlying

drinking water aquifer. Please revise this DQO to indicate that there is insufficient TDS and yield data to classify the B-aquifer according to federal and state criteria.

6. **Table A-2, Identification of the Seven Steps of the Data Quality Objectives Process, Task 3, page A-7:** The third bullet under Step 5 (Decision Rules) for Task 3 states that TDS and yield data from the B-aquifer will be compared to state and federal exemption criteria for drinking water sources. However, there is no discussion of the collection of yield data presented in the FSP, and therefore it is not clear what data will be compared to the state and federal criteria. Will yield data collected during the RI be used? Is the Navy going to assume that all wells are likely to meet the yield criteria? Please clarify.