



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

October 31, 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 of the Draft Annual Groundwater Monitoring Report, Parcel B, Hunters Point Shipyard

Dear Mr. Mach:

EPA has reviewed the above referenced document. Our comments are presented in an attachment to this letter.

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

Sincerely,

A handwritten signature in cursive script, appearing to read "Claire".

Claire Trombadore
Remedial Project Manager

cc: Chein Kao, DTSC
Brad Job, RWQCB
Mike Wanta, TtEMI
Tom Shoff, TtEMI
Dave DeMars, Navy
Rich Pribyl, Navy
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Attachment
EPA Review and Comment
Draft September 1999 to September 2000
Annual Groundwater Sampling Report for Parcel B
Hunters Point Shipyard

General Comments

1. In Section 5 of the *Draft September 1999 to September 2000 Annual Groundwater Sampling Report for Parcel B, Hunters Point Shipyard* (the Report) The Navy has recommended changes to the quarterly groundwater monitoring program for Parcel B, which is specified in the *Final Parcel B Remedial Design Document V, Remedial Action Monitoring Plan, Remedial Action, Hunters Point Shipyard* (the RAMP). While EPA applauds the Navy's efforts to maximize the monitoring program's effectiveness while reducing costs, we disagree with the following recommendations for changes to the groundwater analytical program made in Section 5:
 - Delete IR07MW23A from the monitoring program. This well should be retained in the monitoring program. IR07MW23A is located hydraulically downgradient from site IR-18, and therefore serves as a post-remedial action monitoring well for this site. Additionally, IR07MW23A is located near the northwestern boundary of Parcel B, and therefore also serves as an on- and off-site monitoring well.
 - Delete IR07MW25A from the monitoring program. This well should be retained in the monitoring program. IR07MW25A is located hydraulically downgradient from Remedial Area (RA) 7-1, and therefore serves as a post-remedial action monitoring well for this RA. Additionally, IR07MW25A is located near the northwestern boundary of Parcel B, and therefore also serves as an on- and off-site monitoring well.
 - Delete IR06MW42A from the monitoring program. This well should be retained in the monitoring program. According to the RAMP, IR06MW42A was included in the monitoring program to monitor the impact of potential leaking underground utility lines, which were presumed to serve as groundwater sinks. The groundwater elevation data presented in the Report appears to indicate that there may be a leaking storm drain line in this area. Although there were no exceedances of the RAMP trigger levels in the groundwater samples collected from this monitoring well during the first year (Y1) of groundwater monitoring, one year is not a sufficient enough duration to determine that there are no impacts from utility lines to groundwater in this area.
 - Change the frequency of monitoring for IR18MW21A and IR07MW28A from quarterly to semi-annually. These wells should continue to be sampled on a quarterly basis for the second year (Y2) of monitoring. These wells have only been monitored for one year, which is not a long enough time to verify that there

is no seasonal variation in groundwater concentrations, or to determine the most appropriate quarters for monitoring these wells.

According to the cover letter which accompanied the Report, the Federal Facilities Agreement (FFA) schedule has a tentative meeting set for November 9, 2000 to discuss and resolve significant comments to the Report. If this meeting goes forward, EPA can only attend in the afternoon. We anticipate that these issues can be discussed at the November 9, 2000 meeting. Alternatively, if the Navy has no objections to EPA's recommendations regarding these monitoring wells, please revise the Report to address EPA's concerns.

2. EPA appreciates the Navy's efforts to augment the groundwater elevation monitoring program by proposing the addition of several wells to this program for Y2. However, it does not appear that these wells are sufficient to address data gaps regarding groundwater flow directions near the northwestern portion of the parcel (IR sites 7 and 18), and in the vicinity of IR site 25. We have recommended that the Navy add several additional wells to address these data gaps; these recommendations are provided in our specific comments below. Additionally, the groundwater elevation contour data presented in Figures E-1 through E-4 appear to indicate that there are anomalously low groundwater elevations in the vicinity of monitoring wells IR06MW42A and IR06MW46A. This area coincides with the Basin 4 storm drain study area, which was discussed in the *Draft Technical Memorandum, Parcel B Storm Drain Infiltration Study, Hunters Point Shipyard*, (the Storm Drain Technical Memorandum). EPA has previously commented that the study detailed in the Storm Drain Technical Memorandum appeared to be insufficient to demonstrate that there is no groundwater infiltration into this storm drain segment. The groundwater elevation contour data presented in Figures E-1 through E-4 suggest that groundwater may be infiltrating into storm drains in this area. Additionally, there is a segment of the storm drain in this area that was not included in the original storm drain infiltration study, which may need to be included in subsequent storm drain studies. Please revise the Report to provide recommendations for evaluating the anomalous groundwater elevations in this area. Alternatively, the Navy may wish to discuss the need for such evaluations or their recommendations for such evaluations at the November 9, 2000 meeting.
3. It is not clear from reading the Report which sample ID numbers refer to which monitoring wells, and where the Quality Assurance/Quality Control (QA/QC) samples were collected from. For example, the table presented in the text of Section 3.3, Data Quality, regarding the resampling of selected wells, appears to contain at least one error linking the sample ID numbers with the monitoring wells (this particular instance is addressed in the Specific Comments), however, the only way to identify this error is to search through the monitoring well sampling sheets and the chains of custody (COCs) presented in Appendices B and C. Additionally, there is no discussion in the Data Quality section regarding where the equipment blanks or the matrix spike/matrix spike (MS/MSD) duplicate samples were collected from. Please revise the Report to include a table which lists the sample ID number, the corresponding monitoring well and the corresponding type of QA/QC sample, if the sample is a QA/QC sample. This table

should be included in both the revised Report and subsequent quarterly and annual monitoring reports.

Specific Comments

1. **Sections 2.1 and 2.2, Groundwater Level Measurements and Sampling Procedures, page 3:** These sections refer to dates from the third quarter groundwater monitoring event (April 24 - May 2), instead of the fourth quarter groundwater monitoring event dates. Please correct this error, or alternatively, please clarify why the previous quarter is being referenced.
2. **Section 2.2, Groundwater Sampling Procedures, page 4:** The second paragraph in this section states that submersible pumps were used for purging. However, field observations during the first quarter year 2 (Q1 Y2) sampling event and a review of the monitoring well sampling sheets presented in Appendix B indicates that the wells are typically purged with disposable bailers, not submersible pumps. Please revise this section to accurately reflect the procedures that were used in the field.
3. **Section 2.2, Groundwater Sampling Procedures, page 4:** This section states that groundwater samples collected for metals analysis were decanted into 1-liter bottles. However, field observations during the Q1 Y2 sampling event indicated that groundwater samples for metals analysis were collected into 500-ml plastic bottles. Please clarify the type of bottle being used for the collection of samples for metals and hexavalent chromium analyses.
4. **Section 2.2, Groundwater Sampling Procedures, page 4:** The description of the field filtering procedure presented in this section is not accurate, based upon field observations during the Q1 Y2 sampling event. Samples collected in disposable bailers were filtered by attaching a filter to the outlet of the bailer, and decanting directly into the sample bottles. Samples collected during low-flow purging using a peristaltic pump were filtered by attaching a filter to the outlet tube of the pump and decanting directly into the sample bottles. Please revise the description of the field filtering technique to accurately reflect the procedures being used in the field.
5. **Section 3.2, Q4 Analytical Results, page 7:** The second paragraph in this section indicates that the specific trigger levels by chemical for each well type is presented in Table 3. However, Table 3 does not include volatile organic compound (VOC) monitoring wells. Please include a footnote in Table 3, similar to the text in Table 2, which indicates that the trigger levels for the VOC monitoring wells are the same as for the POC monitoring wells.
6. **Section 3.3, Data Quality:** Please provide a table in this section which lists each of the QA/QC samples collected as part of the Q4 Y1 sampling event. This table should include the sample identification number, the monitoring well the sample was collected from, the sample date and the type of QA/QC sample that was collected.

7. **Section 3.3, Data Quality, page 8:** The first paragraph in this section indicates that two field duplicate samples were collected, and one of these was collected from IR18MW101B, which is not part of the Parcel B RAMP. It is not appropriate to collect a QA/QC sample from a monitoring well from outside of the Parcel B RAMP, and include this sample as part of the QA/QC requirements for the RAMP. A second field duplicate sample should have been collected from one of the Parcel B RAMP monitoring wells. Please ensure that in the future, QA/QC samples will only be collected from the RAMP monitoring wells as part of quarterly groundwater sampling activities, in order to satisfy the QA/QC requirements of the RAMP. Alternatively, if a monitoring well outside of the RAMP is included in the collection of QA/QC samples, please include all of the sample results from this well in the monitoring report. Please revise the Report to include all of the analytical results for the groundwater samples collected from IR18MW101B during the Q4 Y1 sampling event, since this well was included as part of the QA/QC program for the Q4 Y1 sampling event.
8. **Section 3.3, Data Quality, page 8:** This section indicates that equipment rinsate blank samples were collected. Please specify which pieces of equipment the equipment rinsate blanks were collected from, the dates of sample collection, and the wells that immediately preceded and followed the collection of the equipment rinsate blanks.
9. **Section 3.3, Data Quality, page 8:** The text indicates that the field duplicate analytical results are compared in Appendix H. However, these data could not be found in Appendix H, or anywhere in the report. Please clarify where the field duplicate analytical data are reported and where a comparison of these data are presented in the Report. In particular, the comparison of the data should include the actual analytical results, as well as the calculation of the relative percent difference between the two analytical results.
10. **Section 3.3, Data Quality, page 9:** The text and table presented on this page indicate that three samples were rejected by the laboratory because the samples exceeded the required preservation temperature. However, the text lists one of the wells as IR07MW24A, while the table lists IR06MW24A. Please clarify whether the text or the table is correct, and please revise the Report to correct this discrepancy. Additionally, there appear to be several inconsistencies between the information provided in Section 3.3 regarding these samples, the monitoring well sampling sheets presented in Appendix B, and the COCs presented in Appendix C, as follows:
 - According to the COCs presented in Appendix C, the samples collected on July 6, 2000 from IR06MW24A, IR07MW25A and IR18MW100B were only intended to be analyzed for hexavalent chromium (COC #0697), while the samples collected on July 14, 2000 from the same wells were analyzed for VOCs, metals, and total petroleum hydrocarbons. The text indicates that the original samples were rejected by the laboratory, and the wells were resampled for all analyses. However, it is our understanding that the samples collected for hexavalent chromium analysis are submitted to a different laboratory than the samples collected for the other analyses. Were the original samples that were submitted to

both of the laboratories rejected? If so, where is the COC for the original samples submitted for VOCs, metals and total petroleum hydrocarbons analysis?

- According to the COCs presented in Appendix C, sample 0028G003 (presumably the sample from IR06MW24A) was intended to be a MS/MSD sample on July 6, 2000, while sample 0029F025 (presumably the sample from IR07MW25A) was intended to be a MS/MSD sample on July 14, 2000.
- The monitoring well sampling sheet for the re-sampling of monitoring well IR07MW25A indicates the sample ID is 0029F025, and that the original sample for this well (0028G003) was not analyzed. The table on page 9 lists the July 6, 2000 sample from monitoring well IR06MW24A as having sample ID 0028G003.
- The COC for sample 0029G029 (the sample from IR18MW100B) could not be located in Appendix C.
- The monitoring well sampling sheet for sample 0029G029 (the sample from IR18MW100B) could not be located in Appendix B.

Please revise the Report to clarify these discrepancies.

11. **Section 4.1.2, Tidal Effects on Groundwater Levels, page 12:** This section mentions the potential impact sea walls along the shoreline of Parcel B may have on groundwater elevation measurements in Parcel B. The potential impact of the sea walls on groundwater elevations are also mentioned in Section 4.1.5, but there is no figure presented in the report which shows the locations of the sea walls. Please revise figures E-1 through E-4 to show the locations of sea walls along the shoreline of Parcel B.
12. **Section 4.1.3, Groundwater Elevation Contour Maps, page 12:** Please provide a table summarizing the old top of casing (TOC) measurements and the new TOC measurements for the wells where the TOC was re-surveyed. Additionally, please clarify why only 22 of the Parcel B wells were re-surveyed, instead of all of the wells.
13. **Section 4.2.1, Analytical Results that Exceed Trigger Levels, Point-of-Compliance Wells, page 14:** The text after the bullets indicate that barium was detected in five of eight point of compliance (POC) wells and zinc was detected in seven of eight POC wells in the Q2 Y1 sampling event. However, the bullets above this paragraph indicate that barium was detected in four wells and zinc in six wells during Q2. Please resolve this discrepancy.
14. **Section 4.3.3, Spatial Distribution of Selected Contaminants, Nickel, page 18:** This section discusses the nickel groundwater analytical results, however, the second sentence of the third paragraph in this section indicates that “groundwater samples were collected from temporary wells that were placed as near as possible to former RI monitoring well locations at which elevated levels of zinc had been detected”. Please clarify if this sentence should be referring to nickel or to zinc.

15. **Table 8, Summary of Proposed Year Two Wells to Be Sampled, Analysis Performed, and Sampling Frequency:** Post-Remedial Action monitoring wells IR07MW20A1 and IR07MW25A are proposed for elimination from the monitoring program in Y2, but CLP metals are included as sample analyses for these wells in Y2. Additionally, CLP pesticides and PCBs are proposed as additional analytes for IR07MW24A, but this change is not discussed in the text. Please clarify these issues.
16. **Section 5.1.2, RAMP Monitoring Wells, Sentinel Monitoring Wells, page 38:** The Navy is proposing to eliminate IR07MW23A from the RAMP, and indicates that IR18MW21A is located approximately 200 feet upgradient of this well. However, according to Section 4.1.5 of the Report, the groundwater elevation data are insufficient to determine the direction of net groundwater flow across the northern boundary of Hunters Point Shipyard. Therefore, it is not apparent that IR18MW21A is located upgradient of IR07MW23A. Additionally, IR07MW23A may be important as a monitoring well to evaluate the effectiveness of the remedial actions at the IR-18 excavations and to monitor potential contaminant transport across the northwestern boundary of Parcel B. Therefore, please revise the Report to indicate that IR07MW23A will be retained as a RAMP monitoring well.
17. **Section 5.1.3, RAMP Monitoring Wells, Volatile Organic Compound Monitoring Wells, page 39:** The last paragraph of the section before the bullets indicate that the Navy plans to install an A-aquifer monitoring well inside the eastern portion of Building 123, apparently as part of the soil-vapor extraction treatability study. Please clarify the intended use of this well, and if this well will be included in the VOC monitoring program for Parcel B.
18. **Section 5.1.4, RAMP Monitoring Wells, Post-Remedial-Action Monitoring Wells, page 39:** The Navy proposes to eliminate the sampling of post-remedial-action wells IR07MW25A and IR07MW21A1. We do not concur with the recommendation to eliminate the sampling of monitoring well IR07MW25A. This well is located downgradient of remedial area 7-1, and has only been monitored for one year, which is insufficient to determine that there has been no migration of contaminants from remedial area 7-1. Additionally, monitoring this well may also be important to verify that there is no contaminant transport across the northwestern boundary of Parcel B. Please revise the Report to indicate that this well will be retained as a RAMP monitoring well.
19. **Section 5.1.4, RAMP Monitoring Wells, Post-Remedial-Action Monitoring Wells, page 40:** The last bullet at the top of this page indicates that samples from IR07MW28A will be analyzed for CLP pesticides and PCBs. IR07MW28A is an on/off-site migration well, not a post-remedial action monitoring well. It appears that this should be well IR07MW24A, which, according to Table 8, will have CLP pesticides and PCBs added to its analytical suite in Y2. Please correct this error, or, alternatively, please explain why IR07MW28A is mentioned in the post-remedial action monitoring well section of the Report.

20. **Section 5.1.5, Monitoring Wells, Utility Line Monitoring Well, page 42:** We do not concur with the Navy's proposal to eliminate well IR06MW42A from the RAMP. The purpose of monitoring this well is to assess the impact of potential leaking of underground utility lines. This well has only been monitored for one year, which is not sufficient to demonstrate that there is no leaking of potential contaminants along the underground utility line. Additionally, Figures E-1 through E-4 indicate that the groundwater elevations measured at this well are anomalously low, suggesting that there may be an impact to the groundwater from the storm drain lines in this area. Please revise the Report to indicate that this well will be retained in the RAMP.
21. **Section 5.1.6, Monitoring Wells, On- and Off-Site Monitoring Wells, page 42:** The Navy proposes to change the monitoring frequency for IR07MW28A and IR18MW21A from quarterly to semi-annually. However, these wells have only been monitored for one year, which is insufficient to demonstrate seasonal changes in groundwater conditions. We do not concur with this recommendation. Please revise the Report to indicate that these wells will continue to be monitored on a quarterly basis.
22. **Section 5.2.3, Trigger Levels, Metals, page 44:** The Navy proposes to change the trigger levels for barium and thallium from the Hunters Point Groundwater Ambient Levels (HGALs) to the trigger levels specified in the Parcel B Record of Decision (ROD), which typically used one-tenth of the saltwater acute toxicity National Ambient Water Quality Criteria (NAWQC). Additionally, the Navy proposes to change the trigger level for chromium from the HGAL (15.7 ug/l) to the chronic saltwater toxicity value for hexavalent chromium (50 ug/l).

The intent of the trigger levels established in the RAMP for barium, chromium and thallium, was to ensure the protection of aquatic receptors, by identifying elevated concentrations of these contaminants in advance of the groundwater migrating into San Francisco Bay. Because there was no saltwater chronic toxicity NAWQC available for these three elements, the trigger level in the RAMP defaulted to the HGAL. The ROD specifies groundwater monitoring for up to 30 years at Parcel B, and the Navy has just completed the first year of this monitoring program. It is premature at this time to recommend changes to the trigger levels specified in the RAMP. Please revise the Report to indicate that there will be no changes to the trigger levels for barium, thallium and chromium.

23. **Section 5.3, Groundwater Level Measurements, page 45:** The Navy proposes to add four wells to the groundwater level measurement program. In Section 5.1, the Navy proposed the elimination of 7 monitoring wells from the RAMP. Based upon the discussion of the potentiometric surface of the A-aquifer at Parcel B, there is still some uncertainty regarding the direction of groundwater flow in the vicinity of the northern and northwestern parcel boundaries, and in the vicinity of the boundary with site IR-25. At a minimum, all of the monitoring wells proposed for elimination from the RAMP should be retained for groundwater level measurements, with the exception of IR07MW21A, which was destroyed during the excavation at remedial area 7-1. Additionally, Figure 9 of the Report indicates that there are two monitoring wells located

between IR06MW42A and IR06MW46A, and there is two additional monitoring wells located in IR-18. All four of these wells should be added to the groundwater level measurement program, to provide additional data regarding water levels in these areas. Please revise the Report to include these additional wells in the groundwater level measurement program.

24. **Figures E-1 through E-3:** The groundwater elevation contours presented in these figures are different than the corresponding groundwater elevation contours originally presented in the corresponding quarterly monitoring report. For example, the groundwater elevation contours for August 31, 1999 (Figure E-1) are different than the groundwater elevation contours presented in the *Final September - December 1999 First Quarterly Groundwater Monitoring Report for Parcel B, Hunters Point Shipyard*. It appears that the groundwater elevation contours were reinterpreted in the Report, but this reinterpretation is not discussed in the text of the Report. While the revised TOC elevations from August 2000 were used to calculate the groundwater elevations, it does not appear that the change in TOC elevations would account for the changes in the groundwater elevation contours. Please revise Section 4.1.1, Potentiometric Surface Evaluation, to discuss the reinterpretation of the groundwater elevation contours from the first three quarters of groundwater monitoring.
25. **Figures E-1 through E-4:** The groundwater elevations measured at monitoring wells IR06MW42A (Figures E-1 through E-4) and IR06MW46A (Figure E-4) appear to be anomalously low. One possible explanation for these groundwater elevations is that the storm drains in this area are acting as sinks for groundwater. These wells are in the vicinity of the Basin 4 storm drain reach, where an infiltration study was performed, as detailed in the Storm Drain Technical Memorandum. However, as detailed in EPA's comments to the Storm Drain Technical Memorandum, dated September 28, 2000, the infiltration study in the vicinity of the Basin 4 storm drain reach (MH B5-1 to MH B9) was inadequate to determine whether or not groundwater is infiltrating into the storm drain. Additionally, a review of both the Storm Drain Technical Memorandum and the report indicates that there is another storm drain which runs perpendicular to the MH-B5-1 to MH B9 reach, and which runs next to IR06MW42A. However, it is not clear from either of these reports where this section of the storm drain originates from and where it discharges to. Please provide additional information regarding this section of the storm drain (i.e. depth of inverts, where the storm drain originates from, where the storm drain discharges to, etc.). Additionally, it may be appropriate to include this reach of the storm drain in the storm drain infiltration study.
26. **Figure E-4:** Figure E-4 has two wells that are labeled IR06MW46A, one with a water level of 4.06 and one with a water level of 1.97. Please clarify this discrepancy.
27. **Appendix B, Monitoring Well Sampling Sheets:** The monitoring well sampling sheet for IR07MW28A is upside down in the electronic deliverable. Please correct this error in the final version of the Report.