

Arc Ecology

Environment, Economy, Society, & Peace

March 02, 2004

Keith Forman
Naval Facilities Engineering Command
Southwest Division
1230 Columbia Street, Suite 1100
San Diego, CA 92101-8517

Re: Draft Sampling and Analysis Plan (Field Sampling Plan and Quality Assurance Project Plan) Basewide Groundwater Monitoring Program, Hunters Point Shipyard, San Francisco, California, dated December 18, 2003 – additional comments

Dear Mr. Forman:

Thank you for providing Arc Ecology with the opportunity to review the *Draft Sampling and Analysis Plan (Field Sampling Plan and Quality Assurance Project Plan), Basewide Groundwater Monitoring Program, Hunters Point Shipyard, San Francisco, California*, dated December 18, 2003. This letter provides comments on the Basewide Groundwater Monitoring Program (BWGMP) in addition to those submitted in our letter dated February 3, 2004:

Parcel B Groundwater Sampling Design

According to Figure 4 – *Groundwater Sampling Well Network for Parcel B*, no wells along the sea wall were selected for groundwater sampling and analyses, although many of them have been selected for groundwater level measurements. Section 2.3 *Groundwater Flow Characteristics* indicates that groundwater flows toward the San Francisco Bay in this area. Data from these wells, therefore, could be used to clarify the question the potential migration of contaminants from Parcel B into San Francisco Bay. What is the rationale for not including any of these wells in the groundwater-sampling plan?

According to Table 7A: *Proposed Groundwater Sampling Locations, Analyses, and Rationale for Parcel B*, only groundwater from the A-Aquifer will be sampled in Parcel B. Section 2.5.1 of the *Draft Parcel B Shoreline Characterization Technical Memorandum, Hunters Point Shipyard, San Francisco, California, October 3, 2003*, states that the A-Aquifer and the bedrock water-bearing zone are present continuously throughout Parcel B and that the B-Aquifer is present in areas of Parcel B. Data from the B-Aquifer and the bedrock water-bearing zone could be used to better characterize groundwater flow characteristics for Parcel B and to better determine the nature and extent of contamination on Parcel B, thus better informing any future decisions to amend the original Record of Decision for this Parcel. What is the rationale for not including any groundwater sampling from the bedrock water-bearing zone or B-Aquifer in the plan? What data does the Navy have to indicate that the contaminants present in the A-Aquifer are not present in the B-Aquifer or in the water-bearing zone of the bedrock on Parcel B?

Figure 3 – *A-Aquifer Groundwater Elevations* and Figure 4 – *Groundwater Sampling Well Network for Parcel B* indicate that groundwater in the area of IR-07 generally flows to the northeast, towards San Francisco Bay. However, there are no monitoring wells selected between the edge of the indicated nickel

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plume and the shoreline in order to monitor potential movement of the plume towards the San Francisco Bay.

Figure 3 – *A-Aquifer Groundwater Elevations* does not indicate any wells included in the groundwater sampling plan immediately downgradient of IR-06. What is the rationale for not conducting groundwater sampling downgradient of the 2001 Soil Vapor Extraction treatability study?

Figure 3 – *A-Aquifer Groundwater Elevations* does not indicate any wells included in the groundwater sampling plan immediately downgradient of IR-26, either north in the direction of the shoreline or south toward Dry Dock 3. What is the rationale for not conducting groundwater sampling downgradient of the IR-26?

Table 3E: *Data Quality Objectives for Parcel B* states that the problem for Parcel B is that groundwater from this parcel may be impacting aquatic life in the Bay or may impact aquatic life or human health in the future. In Step 4, the study boundary is defined as the shallow-water bearing zone in Parcel B and references the *Final Remedial Action Monitoring Plan, Parcel B, Hunters Point Shipyard, San Francisco, California, July 2, 1999* (RAMP). While the RAMP does limit the extent of the RAMP to the A-Aquifer, the BWGMP is not bounded by the study limits of the RAMP. Given that the Navy has stated that the current Parcel B Record of Decision must be amended and the selected remedies re-evaluated, the BWGMP goals of systematic groundwater monitoring to track plumes, to further characterize areas of concern, and to confirm groundwater flow patterns should be extended to the B-Aquifer and bedrock water-bearing zone of Parcel B. If the Navy will not extend the Parcel B study area beyond the A-Aquifer, please explain what data can be provided to demonstrate that the B-Aquifer and bedrock water-bearing zones of Parcel B are not contaminated and that they have been sufficiently characterized so as to effectively characterize their impact on current and potential subsurface contaminant migration within Parcel B; from Parcel B to the Bay, to surrounding Parcels, and/or off the Shipyard; and from other areas of the Shipyard to Parcel B.

Arc Ecology appreciates having the opportunity to review this document. If you have any questions about the comments, I can be reached at (415) 495-1786 or Cian_Dawson@mindspring.com.

Sincerely,

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Staff Scientist

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