

## CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

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Subject: Comments on the Draft Final Phase 1 Site-wide Ecological Assessment Work Plan, November 3, 1992

Dear Mr. Chao:

The following comments are based on the San Francisco Bay Regional Water Quality Control Board staff's review of the Draft Final Phase 1 Site-wide Ecological Assessment Work Plan, dated November 3, 1992.

GENERAL COMMENTS:

The purpose of this document is to outline the phase 1 activities for a site-wide ecological assessment. Throughout the document the term "site" should refer to the entire site and not the former areas of OU6 and adjacent OU2 areas where there are obvious wildlife habitats. This workplan tends to address only the storm water retention ponds and wetlands on site, making a foregone conclusion that there are no other potential impacts to ecological habitats on the base. The phase 1 data collection and evaluation of the site need to be completed before areas on site can be excluded from further ecological assessment. It is inappropriate to scale down the workplan to address only specific areas. The whole site needs to be evaluated.

This workplan includes some of the activities that should be part of the phase 2 portion of the ecological assessment. Phase 1 includes the compilation of data from literature review, site inspections, former field investigations and any pertinent data which can be utilized for the qualitative evaluation of the site. Phase 1 data can be used for a semi-quantitative evaluation of the chemical nature and extent of contamination on site, but not for evaluating impact or risk. Proposed contaminants of concern may be presented for purposes of discussion, but all contaminants should be included, even those considered to be at "background" concentrations. At the phase 1 stage, determining total risk, rather than incremental risk, is the appropriate approach.

Candidates for representative "target" ecological receptors for future assessment may be presented within the context of the larger universe of potential receptors to be identified. The qualitative nature of the phase 1 ecological assessment makes screening out receptors at this stage premature.

The field sampling proposed for phase 1 should not be considered to be the extent of the sampling necessary to complete the ecological assessment. These sampling locations can be used to obtain additional data to aid in determining the nature and extent of the contamination in the areas where there is limited chemical data presently. However, the data from these sampling points should not be used to assess ecological impact. The data collected in phase 1 will be used to guide the specific sampling investigation to be conducted in phase 2. The field investigations during phase 2 will address specific questions regarding toxicity. A sampling and analysis plan will be required for the specific phase 2 investigations warranted by the information gathered in phase 1.

Plants as potential receptors need to be carried through all the stages of the ecological assessment. They seem to be forgotten during some of the stages of

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this evaluation.

The use of field screening assessments such as screening for invertebrates in soil and sediment is highly supported.

SPECIFIC COMMENTS:

pg. 2, section 2.0 The purpose of the site-wide investigation should be to evaluate the entire site for possible ecological impact.

pg. 4 & 5 The description of this ecological plan incorporates sections, such as the exposure assessment and the ecological effects assessment which should not be included in the phase 1 activities. These evaluations are part of phase 2.

pg. 9, section 3.2 These conclusions as to where the "significant" ecological receptors reside is premature. This evaluation needs to occur during the phase 1 investigation. All potential ecological habitats need to be documented. Areas such as Site 10 and Patrol road ditch are other potential areas of ecological habitats. The base's characteristics should be documented during the site walk.

pg. 12, section 4.2 The selection of "species or groups of species for evaluation of potential risks or impacts" should be done in the larger context of the description of habitat types and their respective locations. The phase 1 qualitative assessment is not the appropriate stage to be screening out potential receptors.

pg. 14, par. 1 The site reconnaissance can focus on certain areas but the entire site must be part of the reconnaissance investigation.

pg. 16, par. 1 The Northern channel should also be included in the habitat survey.

pg. 17, section 4.3 What is the intention of delineating the wetland using regulatory guidelines when the habitats are being assessed? The U.S. Army Corps of Engineers' definition of wetlands is used to delineate wetland areas for regulatory purposes, primarily for the 404 permit process for dredging and filling activities which may alter a wetland. Since the purpose of this ecological assessment is to evaluate and document the habitats on site, a more useful definition of wetlands would be the one used by the Fish and Wildlife Service (FWS). The FWS definition does not require all three characteristics of a wetland to be present but states that "wetlands must have one or more of the following three attributes: 1) at least periodically, the land supports predominantly hydrophytes, 2) the substrate is predominantly undrained hydric soil, and 3) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of each year" (Classification of Wetlands and Deepwater Habitats of the United States, FWS U.S. Dept. of the Interior, 1979). The Corps' criteria for delineating a wetland could potentially exclude various types of wetland habitats such as mudflats, salt flats and diked wetland habitats which possess various soil types.

pg. 22, section 4.4.1 TPH should be included in the analysis of the samples as stated on page 39 of the work plan. The northern channel is potentially an area where contaminated sediments reside due to the contaminated outfall from building 191. As stated in our comments on the draft document, there needs to be more sampling locations than proposed in the northern channel, at least in the areas adjacent and downstream of building 191's potential impact. Whether or not the ponds contain water at the time of sampling, surface sediment samples should be taken in addition to the proposed water samples.

pg. 23, Marriage Road Drainage Ditch: Three sample locations are shown in Figure 13 compared to two samples discussed in the text. At least three samples of sediment should be taken.

pg. 24, section 4.4.3 Water samples from Patrol road ditch should be included in this investigation during the period when there is standing water in the ditch. The surface water samples should also be analyzed for conductivity and turbidity.

pg. 24, Identification of Contaminants of Concern: The development of a list of candidate contaminants of concern should take place within the context of a larger discussion of all contaminants, including those at "background" concentrations.

pg. 25, Identification of Ecological Receptors: the development of a list of candidate ecological receptors for future evaluation should take place within the context of a larger discussion of all ecological receptors. The qualitative phase 1 assessment is not the appropriate stage of analysis to finalize a list of ecological receptors and no potential receptors should be screened out at this stage.

pg. 27, Quantification of Release, Migration, and Fate: The use of equilibrium partitioning models must be balanced with the understanding that such an approach may only be valid for non-polar organic compounds. In addition, the fact that ingestion of contaminated sediments may be as, or more important, a pathway for transport, by comparison to the pore-water exposure pathway that equilibrium partitioning models, must be taken into account.

pg. 28, Estimating exposure in Wetland Soils/ Sediment from Organic Contaminants: Equilibrium Partitioning: The assumption that "ingestion of soil is not a significant route of exposure" is not a valid assumption if the potential environmental impact is the result of consumption of contaminated prey which consume or process contaminated sediments.

pg. 29, Identification of Exposure Pathways: All exposure pathways should be considered at the qualitative phase 1 stage. Justification for exclusion of such pathways in the phase 2 investigation should be presented. The elimination of food chain considerations as a pathway for contamination transport is not permitted, particularly when surrogate tests, such as bioaccumulation by molluscs and worms are well established.

pg. 29, Aquatic Exposure Pathways: The SFRWQCB may have sediment quality criteria (SQC) for San Francisco Bay by the time this study is at the stage of comparative analysis. Those SQCs should be included in the analysis.

pg. 29, Terrestrial Exposure Pathways: No consideration was given to direct contact by plants to contaminated soil and groundwater despite the fact that the field survey was to include a "stressed vegetation" survey.

pg. 30, Characterization of Receptors: Wetlands vegetation should be included in the "categories of receptors".

pg. 31, Estimation of Exposure Point Concentrations: The qualitative phase 1 stage is too early in the assessment to have made decisions about the final exposure point concentrations. The choice of whether a mean or a maximum value for surface or groundwater should be indicated in the sampling plan so that regulatory approval may be made.

pg. 33, Plan for Risk Characterization: How will the "exposure dose" for various receptors be determined?

pg. 34, Terrestrial Ecological Effects Characterization: The database PHYTOX contains many toxicity references for terrestrial plants.

pg. 35, section 8.6 There are State standards for sediment and water quality that may be more stringent than the EPA published criteria and will need to be addressed in the evaluation process. The California RWQCB Compilation of Water Quality Goals and the San Francisco Bay Basin Plan limits will be applicable.

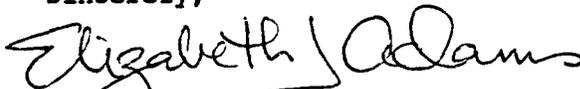
The toxicity quotient approach or hazard quotient approach is not to be used to screen out chemical contaminants or ecological receptors at the qualitative phase 1 stage. This approach may be used within the context of a larger discussion of contaminants, receptors, and pathways, but is not appropriate for narrowing the discussion of the phase 1 data.

Table 2 Where is the list of federal and California rare and endangered species which have been sighted and documented to be on Moffett Field? These species need to be included in the text and on this Table. These species include the salt marsh harvest mouse, California clapper rail and black rail, least terns, and the San Francisco forktail damselfly.

Figure 9 The HAZWRAP samples located along the sloughs are labeled but have no TPH concentration associated with them. Was TPH detected in these sample locations, and if so, at what concentrations?

If you have any questions or concerns, please call me at the San Francisco Bay Regional Water Quality Control Board at (510) 286-3980.

Sincerely,

  
Elizabeth J. Adams  
Project Manager

cc: Cyrus Shabahari, DTSC  
Roberta Blank, US EPA