



February 8, 1994

Mr. Stephen Chao/Ms. Camille Garibaldi
Department of the Navy
Western Division
900 Commodore Way, Building 101
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CLEAN Contract Number N62474-88-D-5086
Contract Task Order 0235

**Subject: Response to Comments on the Year-Two Quarterly Sampling and Analysis Plan
Naval Air Station Moffett Field**

Dear Stephen and Camille:

Enclosed are PRC Environmental Management, Inc.'s (PRC's) response to comments by the U.S. Environmental Protection Agency (EPA) on the Year-Two Quarterly Sampling and Analysis Plan. PRC received these comments from Mr. Michael Gill in a fax dated December 13, 1993. If these responses have not sufficiently addressed the concerns please contact me by February 15, 1994. These revisions will be incorporated into the plan after this date if there are no further concerns.

If you have any questions, please call me at (303) 295-1101.

Sincerely,

A handwritten signature in cursive script that reads "Dirk G. Applegate for".

Dirk G. Applegate

DGA/sn

Enclosures

cc: Mr. Michael Gill, EPA
Mr. C. Joseph Chou, DTSC
Ms. Elizabeth Adams, RWQCB
Mr. Kenneth Eichstaedt, URS
Mr. Don Chuck, NASMF (2 copies)
Lt. Susanne Openshaw, NASMF (letter only)
Ms. Sandy Olliges, NASA (2 copies)
Dr. Joseph LeClaire, Montgomery Watson
Mr. Michael Young, PRC

NAVAL AIR STATION MOFFETT FIELD
RESPONSE TO COMMENTS ON
YEAR-TWO QUARTERLY GROUNDWATER SAMPLING AND ANALYSIS PLAN
FEBRUARY 8, 1994

This report presents point-by-point responses to U.S. Environmental Protection Agency (EPA) comments on the Year-Two Quarterly Groundwater Sampling and Analysis Plan prepared October 14, 1993. Mr. Michael Gill submitted the comments in a letter dated December 13, 1993.

Comments from EPA on the Year-Two Quarterly Groundwater Sampling and Analysis Plan

GENERAL COMMENTS

Comment Number 1: From the information provided in the report, it is not possible to evaluate the proposed groundwater monitoring well network. The inclusion of each well in the monitoring program should be supported by the inclusion of or reference to various maps. The most recent contaminant concentration maps for each contaminant of concern in each affected aquifer, contour maps of static water level elevations for each aquifer zone of concern and groundwater flow direction, should be presented so a proper evaluation can be made on the proposed sampling system and schedule.

Response: These maps and various other data are contained in the August and November 1992 Quarterly reports which are referenced in the third paragraph of page 6.

Comment Number 2: It is important to realize that the use of fewer monitoring wells may drastically alter the interpretation of the lateral and vertical extent of contamination. It may also alter the ability to properly track the contaminant migration in the A1 and A2 aquifers. This difference in interpretation may become apparent once the data is reported from the reduced sampling plan.

Response: The reduced sampling and analysis plan's objectives can be met without collecting a sample from each individual well. Therefore, specific wells within or surrounding a plume were chosen. With the lateral and vertical extent of contamination having been previously defined, the chosen wells will enable PRC to evaluate plume location and migration.

Comment Number 3: Electronic reporting of groundwater chemistry and water level data should be considered. In this manner, the data can be analyzed and viewed with standard graphics packages such as Surfer. Such presentation will allow ease of interpretation and save much time.

Response: The last paragraph on page 57 states "After review and validation of the field and laboratory data reports, the data will be entered into the database system that is in place at Montgomery Watson. The database will be used to provide data for contamination and hydrogeologic analyses, for preparing reports and graphics, and for use with the geographic information system (GIS)." The EPA receives electronic copies of the data base and could use this data for the said purposes.

Comment Number 4: A groundwater monitoring decision tree has been included as a potential tool to use in determining the frequency of sampling necessary at Moffett. It was included in some recent draft guidance developed for the California Base Closure Environmental Committee. It is fairly simplistic and has been included for use at the Navy's discretion.

Response: After review of the decision tree, the current sampling and analysis plan follows this tree closely. This tree will be used in the future for preparation of other sampling and analysis plans.

SPECIFIC COMMENTS

Comment Number 5: Section 2.0, page 7, paragraph 1. "...this SAP recommends sampling at only those wells necessary to evaluate plume location and migration." The plume location should be illustrated by isoconcentration maps for each contaminant of concern for each aquifer zone.

Response: See response to general comment number 1.

Comment Number 6: Section 2.0, page 7, paragraph 2. "Figures 2, 3, 4, and 5 show locations of the wells to be sampled each quarter." These figures are useless without contours of ground water level elevations and isoconcentration lines of specific contaminants of concern.

Response: *The purpose of these four figures is to show the general location of the wells to be sampled each quarter. See response to general comment number 1.*

Comment Number 7: Section 2.0, page 7, paragraph 2. "Data collected during the past year and presented in the quarterly sampling reports...were used to select the wells for sampling." The contaminants which were detected, the well identification and aquifer zone monitored should be tabulated or referenced. Ground water isoconcentration maps are necessary to illustrate the contaminate plume(s).

Response: *See response to general comment number 1.*

Comment Number 8: Section 2.0. This section of the report is difficult to review without additional supporting data, as could be provided by the maps requested in the general comments.

Response: *See response to general comment number 1.*

Comment Number 9: Table 2, page 20. The sample numbering system specified in Table 2 indicates that the designation "EB" will be used as the activity code for equipment blanks, while item four of the table gives an example of numbering for the equipment rinsates using a "W" activity code as for a groundwater sample. Section 3.3.2 indicates that the equipment blank will be sent blind to the laboratory, with the designation W as the prefix. This discrepancy should be addressed. The equipment blank should be sent blind to the laboratory, which necessitates the use of the W prefix. In addition, Section 3.3.4 and item one of Table 2 indicate that field blanks will be identified as "FB." It is recommended that field blanks be sent blind to the laboratory.

Response: *Table 1 has been corrected to indicate the use of the prefix "W" for equipment rinsates. Section 3.3.4 has been modified to say that field blanks will be sent blind to the laboratory.*

Comment Number 10: Section 3.2.1, page 21:

- a. In addition to ensuring that there is no headspace in the vials for VOC analyses, the pH should be checked after the collection of a sample from each aquifer to ensure that sufficient acid is present in the vial to bring the sample to a pH < 2. If the pH > 2, additional acid should be added to a vial and the test repeated until the pH is less than two. The vials used for the pH check should be discarded.

Response:

The laboratory has systems in place to verify that the appropriate amounts of acid have been added to the VOA vials. Historically, PRC has had no pH problems using the preserved VOA vials. Furthermore, PRC is concerned with the additional waste that would be generated and the additional time required to perform these procedures.

- b. This section does not include reference to anion analyses, which are included in Table 1. The plan does not identify the anions or the analytical requirements for anion analyses. The plan should identify the anions to be analyzed, and establish the analytical methods, detection limits, holding times, and sample collection container requirements in the appropriate sections and tables of the SAP.

Response:

The appropriate changes have been made to Table 3 to include analytical methods, holding times, and sample collection container requirements. Section 4.2.6 has been added to discuss the anions to be analyzed and Table 9 has been added to include detection limits for anion analyses.

- c. Step Three: If immiscible, nonaqueous phase liquids are detected, well purging should be temporarily halted, and a sample of the non-aqueous phase should be collected for analysis. Appropriate notation should be recorded in the field notebook. Purged waters should be containerized and properly disposed.

Response: Step four has been modified to incorporate immiscible nonaqueous phase liquids in the event that they are encountered while purging a well.

Comment Number 11: Section 3.2.1, page 22, paragraph 1. "Samples collected for metals analyses will be filtered in the field using a disposable 0.45 micron micropore membrane filter apparatus." Both filtered and unfiltered samples should be collected. For the filtered samples, a 5.0-micron filter size should be used (Note: This filtration procedure represents a change from previous EPA procedure). For filtered samples, the filtration should occur immediately after the sample is collected using an in-line filtration system, e.g., the ground after sample to be filtered does not contact the atmosphere until leaving the filtration device and entering the sample container.

Response: Section 3.2.1 has been modified to indicate the use of a 5.0 micron filter size and an in-line filtration system. For wells with more than 1 year of dissolved metals data, filtered metals will be monitored annually. If there is a significant change in the filtered metals results, total metals will then be collected.

Comment Number 12: Section 3.2.2, page 22:

- a. "Bailer": The use of dedicated bailers for each monitoring well could eliminate these tedious procedures. Such procedures would only be necessary upon the initial installation of the bailers. This could save time and money.

Response: Section 3.2.2. has been modified to include the use of dedicated bailers at NAS Moffett Field. However, the procedures for decontamination of nondedicated bailers have been included in the event that they are used.

- b. It is recommended that, when the cross-contamination of metals is of concern, a dilute nitric acid rinse be performed as a step of the decontamination process. Since the analytical protocol includes the annual analysis of metals, specification of a nitric acid rinse should be included in this section.

Response: Section 3.2.2. has been modified to include a dilute nitric acid rinse as a step in the decontamination process for all non-dedicated bailers used to acquire samples for metals analyses.

Comment Number 13: Section 3.3.1, page 26. This section indicates that a trip blank will be included with each cooler containing VOC water samples. Collection of a trip blank is necessary only when there is no other blank for volatiles. Since an equipment blank will be collected each day, a trip blank is not necessary.

Response: With the use of dedicated bailers, the equipment blank will pertain only to the filtered metals samples. Therefore, a trip blank is necessary with all VOC samples.

Comment Number 14: Section 3.3.4, page 27. This section indicates that domestic water from taps of fire hydrants on base will be used for field blanks, since this is the water used for decontamination purposes. Although a tap water rinse is used during the decontamination procedure, this should always be followed by a deionized water and HPLC grade water rinse. Analytically certified organic-free (HPLC) water for organic parameters and metal-free (deionized-distilled water for inorganic parameters should be used for field and equipment blanks.

Response: Section 3.3.2 on page 22 says that the use of tap water is followed by HPLC-grade water rinse.

Comment Number 15: Table 3, page 29:

- a. One 2-liter bottle is specified in Table 3 for each sample collected for base/neutral/acid-extractable (SVOC), total petroleum hydrocarbons (diesel), and pesticides/PCBs. It is recommended that two 1-liter bottles be used for each sample.

Response: Table 3 has been modified to include two 1 liter bottles for SVOC, total petroleum hydrocarbons (diesel), and pesticides/PCBs samples instead of one 2 liter bottle.

- b. The anion analyses, listed in Table 1, are not addressed in Table 3. Sample containers, holding times and preservation criteria need to be established and specified for all analytes to be determined during the groundwater sampling effort.

Response: *Table 3 has been modified to include sample container, holding time, and preservation criteria for anion analyses.*

- c. Dissolved metals are addressed in Table 3, but total metals are not. A one liter sample should be collected for each dissolved and total metal analysis. In addition, it should be noted that the 6 month holding time does not apply to the analysis of mercury [Hg], which should be performed within the 28 day holding time.

Response: *Table 3 has been modified to show the correct holding time for Hg. See response to specific comment number 11.*

Comment Number 16: Section 3.4.1.6, page 33. It is recommended that the sampler indicate on the chain of custody form that the filtered samples for dissolved metals must be digested. This will ensure that the laboratory digests the samples for dissolved metals analyses, and prepares appropriate quality control samples, including preparation blanks, laboratory control samples and matrix spikes. Also, it is recommended that the lab QC sample be specified on the chain-of-custody form to ensure that an equipment rinsate or a field blank is not used for duplicate or matrix spike analyses.

Response: *Section 3.4.1.6 has been modified to include the designation that filtered metals be digested, along with the modification that the laboratory QC samples be specified on the chain of custody.*

Comment Number 17: Section 4.2.1, page 45. This section states that two methods will be used for the analysis of VOCs, either Contract Laboratory Services (CLP) Routine Analytical Services (RAS) or CLP Special Analytical Services (SAS), depending on the turnaround time needed or the detection limits needed. The

project needs regarding the necessary turnaround times and detection limits should be established in the SAP and the required analytical procedures should be specified.

Response: *Section 4.2.1 has been corrected to show that the CLP SAS is the method that will be used for VOC analysis, with the modification being use of a 25 mL purge volume.*

Comment Number 18: Table 7, page 51. The CRDL for lead (Pb) is incorrect. The current CLP CRDL for lead is 3 micrograms/Liter. This item should be changed.

Response: *Table 7 has been corrected to show the correct CRDL (3 micrograms/Liter) for Pb.*

Editorial Comment

Comment Number 19: Section 1.1.2, page 4. NASA is scheduled to assume control of NASMF in July 1994, not October.

Response: *Section 1.1.2 has been corrected to indicate the correct closure date.*