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CROWS LANDING
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From: Commander, Western Division, Naval Facilities Engineering Command
To: Distribution

Subj: RESPONSES TO COMMENTS, NAVAL AUXILIARY LANDING FIELD CROWS LANDING, CA

Encl: (1) Responses to Regulatory Agency Comments on Draft Final Work Plan and QAPjP NALF Crows Landing Site Investigation

1. Enclosure (1) is provided for your use and information. For completeness, the original review comments are attached. The work plan and QAPjP are being revised to incorporate changes as a result of your comments.

2. Should you have any questions regarding this matter, I can be reached at (415) 244-2562.

Original signed by:

HUBERT CHAN
By direction

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Responses to Regulatory Agency Comments on
Draft Final Work Plan and QAPjP
NALF Crows Landing Site Investigation

Response to DTSC Comments, April 13, 1994

Work Plan

1. Additional soil borings have been proposed to complete site investigation activities at Site 17. Figure 4 has been revised to correct the typographical error and to show the additional soil boring locations.

QAPjP

1. Appendix C, Precision and Accuracy Objectives, has been added to the QAPjP.

Response to California RWQCB Work Plan Comments, April 12, 1994

Primary Concerns

Groundwater Monitoring Program

Paragraphs 1 and 2. It is not the intention of this work plan to imply that all groundwater monitoring activities at NALF Crows Landing will cease at the end of this project. However, the scope and objectives of this project are specific and do not include continuation of a comprehensive base-wide groundwater monitoring program. Information from this project and from upcoming investigations at the underground storage tank (UST) sites will be used to outline the scope of continued groundwater monitoring activities. The comment has been noted although no changes to the work plan have been made in response.

Paragraph 3. Groundwater elevations have been measured in all 27 existing monitoring wells at NALF Crows Landing five times over the past year, most recently on

ENCLOSURE (1)

March 24, 1994. The water level measurements have begun to show a predictable pattern of response to seasonal irrigation practices, including mounding and gradient reversals. However, the overall trend of water level elevations continues to be downward. PRC will continue to measure water levels in all 27 existing monitoring wells in the future and will sample all existing wells that contain water as part of this project (as described in Section 3.3 of the work plan). However, based on the recent pattern of water level elevation measurements, it is anticipated that at least nine of the existing wells will be dry and therefore cannot be sampled. The comment has been noted although no changes to the work plan have been made in response.

Background Soil Investigation

Paragraph 1. The background soil boring and monitoring well locations were selected based on several criteria, including the need to be distant and hydraulically upgradient (regionally) from all installation restoration program (IRP) and UST sites, to remain on base property, and to not interfere with base agricultural activities. The proposed background locations satisfy these criteria and PRC prefers not to adjust the locations. However, PRC will analyze the surface soil sample at each background location for polynuclear aromatic compounds (PNAs) to evaluate potential impacts due to the incomplete combustion of jet fuels. In addition, it should be noted that the open (nonfarmed) areas at the ends of the runways are extensive and at the request of the National Aeronautics and Space Administration (NASA), the actual boring locations will be distant (at leased 500 feet) from the ends of the runway pavement. The comment has been noted although no changes have been made to the work plan in response, other than the addition of PNA analyses for the surface soil samples.

Paragraph 2. The work plan has been changed to specify background soil sampling throughout the unsaturated zone as requested.

Paragraphs 3, 4 and 5

The work plan has been changed to specify total and soluble metal analyses for all background soil samples. In accordance with RWQCB guidance, the soluble metal analyses will be completed by following the waste extraction test (WET) procedures using dionized water. The WET extract will be analyzed for target analyte list (TAL) metals using U.S. Environmental Protection Agency (EPA) Contract Laboratory Program (CLP) analytical methods. The WET extract will also be analyzed for major anions (chloride, fluoride, nitrate-nitrite, orthophosphate, and sulfate), alkalinity, pH, electric conductivity (EC), and total dissolved solids (TDS). These analyses will satisfy RWQCB guidance specifying extract analysis for Title 22 metals, general minerals, and general parameters.

Paragraph 6.

Low concentrations of organochlorine pesticides have been detected in surface soil samples previously collected at NALF Crows Landing. PRC suspects that the low concentrations of organochlorine pesticides result from regional agricultural activities and are unrelated to any waste disposal activities. The background surface soil samples will be analyzed for organochlorine pesticides to evaluate this suspicion. An explanation of this objective has been added to Section 3.4 in the work plan.

Other Technical Concerns

1. Some existing monitoring wells that are dry due to declining regional groundwater levels may need to be replaced. However, specific proposals to replace certain monitoring wells are not part of the scope of this project. The results of this project and information from upcoming investigations at the UST sites will be used to evaluate the need to replace specific monitoring wells. The comment has been noted although no changes to the work plan have been made in response.

2. PRC is aware that monitoring wells MW4, MW5, and MW6 at UST Cluster 2 may not be ideally located to detect potential contaminant releases from the tanks. However, future contaminant investigation efforts at all UST sites will be completed under the UST program for NALF Crows Landing. The comment has been noted although no changes to the work plan have been made in response.

3. The work plan has been changed to specify analyses for metals using EPA CLP analytical methods for both background soil and groundwater samples. The CLP methods analyze for all metals on the TAL which includes the Title 22 metals. The CLP methods specify atomic absorption (AA) analytical techniques for arsenic, lead, selenium, and mercury.

   The work plan has also been changed to specify analyses for major anions (chloride, fluoride, nitrate-nitrite, orthophosphate, and sulfate), alkalinity, and TDS for the background groundwater samples. These additional analyses will satisfy RWQCB guidance specifying analysis for general minerals and general parameters. Total metals analyses will not be completed as part of this project but may be added to subsequent groundwater sampling efforts if necessary.

4. The work plan has been changed to include three additional soil borings at Site 17. The soil boring locations will be determined based on the results of a soil gas survey as described in the response to comment 5.

5. The work plan has been changed to include a soil gas survey for Site 17. The results of the soil gas survey will be used to locate two soil borings at each former building location.

6. The work plan has been changed to specify analyses for volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs) using EPA CLP methods. The change was made to be consistent with procedures specified in PRC's current basic ordering agreement (BOA) with analytical laboratories supporting this contract. The SVOC analytical method includes analyses for PNAs. However, the work plan does not include analysis for polychlorinated biphenyls (PCBs) in soil samples from Site 17.

7. The metal detector used for the geophysical survey at Site 18 detected both iron and lead (and other metals) but did not distinguish between the metals. The metal detector survey has been completed and was successful in determining the occurrence and roughly delineating the distribution of bullet slugs at Site 18. Also, the soil samples were analyzed for all TAL metals because no cost savings is realized by requesting only certain metals. The comment has been noted although no changes to the work plan have been made in response.

8. Reference to the leaking underground fuel tank (LUFT) manual was intended solely to identify the total petroleum hydrocarbon (TPH) analytical method to be used. Site 17 is not a UST site; however, PRC has previously used, and in the future will continue to use, the Tri-Regional Board Staff guidance document and Stanislaus County guidance for the investigation of UST sites at NALF Crows Landing. The comment has been noted although no changes to the work plan have been made in response.

9a. PRC prefers to construct 2-inch diameter monitoring wells for the following reasons:

- 2-inch diameter monitoring wells are less expensive to install due to less material costs and reduced drilling and installation time.
- 2-inch diameter monitoring wells produce about one-quarter the volume of purge water during sampling relative to equivalent 4-inch diameter wells (also, less water is produced during development). The reduced purge water volume saves time in the field when sampling, and results in very significant cost savings if the water is contaminated and requires special handling and disposal procedures.
- With the advent of reliable 2-inch diameter submersible pumps, the service flexibility of 2-inch diameter wells has been enhanced. In general, however, extraction wells should be specifically designed for extraction purposes rather than assuming monitoring wells can be used for duel purposes.

The comment has been noted although no changes to the work plan have been made in response.

9b. The work plan has been changed to specify that the grout must cure a minimum of 48 hours prior to development.

9c. The work plan has been changed to clarify that the well casing will be marked to establish a permanent measuring point reference.

Response to DTSC QAPjP Comments, March 1, 1994

1. A project organization flow chart (Figure 2-1) and telephone numbers for the project team members have been added to the QAPjP.

2. The precision and accuracy objectives for the project are included in Appendix C.

3. The pH method listed in the QAPjP has been changed to EPA method 9040 or 9045A. References to the latest revised analytical methods have been added to the QAPjP.

4. PRC typically does not distinguish between the use of ice or blue ice. However, precooled sample containers are always used for VOC samples. The comment has been noted although no changes have been made to the QAPjP in response.

5. Any reevaluation of required reporting limits for suspected contaminants, or the need to select alternative analytical methods to achieve lower reporting limits, will be addressed in the activity- or site-specific field sampling plans (FSP). This procedure is described in Section 6.1 of the QAPjP. Also, the QAPjP has been changed to be consistent with procedures specified in PRC's current BOA with analytical laboratories supporting this contract. The major change from the draft final QAPjP is the use of EPA CLP methods for VOC, SVOC, and metal analyses. The reporting of nontarget tentatively identified compounds (TICs) is a standard procedure when using EPA CLP methods. The reporting of TICs is also now discussed in the text of the QAPjP.

6. As stated in Section 6.1 in the QAPjP, alternative analytical methods may be selected as appropriate and will be described in the activity- or site-specific FSPs. Also, the QAPjP has been changed to specify metal analyses using EPA CLP methods. The EPA CLP methods report all 23 metals on the TAL, including mercury.

7. Soil types, as logged, are routinely reported in requests for geochemical or geotechnical analyses. Also, a laboratory soil classification is routinely reported when analyzing a sample for grain-size distribution. Soil samples are analyzed for grain-size distribution for specific purposes; for example, to select an appropriate screen size when constructing a monitoring well. However, PRC does not routinely submit soil samples for geotechnical analysis solely for the purpose of quality control for field classifications. The comment has been noted although no changes have been made to the QAPjP in response.

8. The reference to a calibration gas for calibrating a specific electric conductance meter is a typographical error that has been removed from the QAPjP.

9. A sample corrective action request form (Figure 8-1) that will be used to document nonconformances identified during a quality assurance (QA) audit has been added to the QAPjP.

10. The section describing the significant QA problems encountered has been expanded to specify that a summary of the QA portions of any interim progress reports produced will be included in the final field investigation reports.