MOFFETT FEDERAL AIRFIELD
RESPONSE TO COMMENTS ON
DRAFT STATION-WIDE REMEDIAL INVESTIGATION FIELD WORK PLAN

January 12, 1995

This document presents responses to U.S. Environmental Protection Agency (EPA), California EPA Department of Toxic Substances Control (DTSC), and Regional Water Quality Control Board (RWQCB) San Francisco Bay Region comments on the Draft Station-wide Remedial Investigation Field Work Plan for Moffett Federal Airfield, former (the Naval Air Station Moffett Field) California. The draft field work plan was submitted September 30, 1994 by PRC Environmental Management, Inc. (PRC). Comments were returned by Mr. Michael Gill of EPA in a letter dated October 28, 1994. Comments were submitted by Mr. Joseph Chou of DTSC and Mr. Michael Bessette of RWQCB in a letter dated November 14, 1994.

Comments From Mr. Gill, EPA

SPECIFIC COMMENTS

Comment 1. *Section 3.1, Page 5, Last Paragraph. Please indicate the previous site assessments during which the second group of bunkers (Buildings 70-73, 143, and 147) were inspected. Were there any radiation surveys done at these buildings?*

Response: No published reports citing inspections of the second group of weapons bunkers could be found. However, the area was visually evaluated by PRC during cone penetrometer testing (CPT) within the fenced area. Groundwater monitoring wells have also been installed around the fenced area. Results of sampling from these wells do not indicate a potential source in this area. In addition, Lieutenant Colonel Fred Francisco of the California Air National Guard (CANG) indicated that the area has been visually evaluated by CANG and no contamination has been found. Furthermore, no waste generating operations have occurred in this area in the past. Therefore, there is little reason to suspect contamination in this area. It appears that no radiation surveys of the weapons bunkers in this area have been conducted. However, according to Lt. Col. Francisco no radioactive materials have been stored at

these weapons bunkers. Lt. Col. Francisco stated that the area is being used for ordnance storage and that access to the weapons bunkers is restricted.

Comment 2. *Section 4.2.1, Page 12 and 13. In all three locations that are to have CPTs, it is mentioned that HydroPunch samples probably will be collected after the CPTs, depending on the presence of permeable sediments. This work plan should say that the sampling will consist of HydroPunch sampling. If for reasons to be determined later it is not possible to take HydroPunch samples, this should be presented in the results report as a deviation from the work plan. The work plan needs to be definitive in describing what will occur in the field.*

Response: Section 4.2 of the work plan states that "HydroPunch® samples will be collected where CPT results indicate permeable sediments are present." The work plan is designed to allow the field geologist to make the decision, in the field, as to which CPT locations are appropriate for collection of water samples using the HydroPunch. These sections of the work plan will be rewritten to clarify the procedure to be used in selecting the CPT locations where water samples will be collected by HydroPunch.

Comment 3. *Section 4.3.3, Page 16. Please spell out the methods that will be used to analyze the samples as shown in Table 2.*

Response: Contract Laboratory Program (CLP) statement of work methods will be used for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and metals. EPA modified method 8015 will be used for total petroleum hydrocarbons (purgeable and extractable).

Comment 4. *Section 4.7.2, page 20. Please spell out the methods that will be used to analyze the samples as shown in Table 3.*

Response: CLP methods will be used for VOCs, SVOCs, and metals. EPA modified method 8015 will be used for total petroleum hydrocarbons (purgeable and extractable).

Comment 5. *Section 7.0, Page 27. While we understand the Navy's desire to mobilize field teams to perform as many exercises as possible per visit, it is not fair to the regulatory*

agencies to present a work plan to us with, in this case, only one week between receipt of the work plan and mobilization of the field team. Please make more of an effort to provide a fair amount of regulatory review time for these work plans.

Response: Comment acknowledged. PRC and the Navy will strive to allow the regulatory agencies more review time in the future.

Comment 6. *Appendix A. The radiation survey whose results were presented in this appendix used a "swipe" technique. Today there are many more reliable and technologically defensible techniques available that should be considered for this and other radiation survey sites. Three of these measurement techniques are:*

a. FIDLER (Field Instrument for Detection of Low Energy Radiation) probe measurements to assess low energy gamma/alpha emitters

b. PIC (Pressurized Ion Chamber) to measure gamma emissions

c. MCA (Multi-Channel Analyzer) to measure gamma spectrum emissions

Response: The radiation survey was conducted in 1993 using modern technology and methods. Mr. William Vermeere of Chemical Waste Management Incorporated, the technical manager of the project, was interviewed by phone. He stated that gamma and alpha surveys were performed at each location shown for the beta swipe tests. These surveys showed only background levels of radiation. Mr. Vermeere has over 30 years of experience in conducting these types of evaluations and stated that the surveys were conducted following standard operating procedures for this type of environmental radiation survey. The radiation measurement method used for the swipe survey (liquid scintillation counting) was chosen because it is capable of detecting very low levels of beta particle radiation that may be expected in environmental samples. Although cesium-137, sulfur-35, and tritium are not isotopes that would be expected in the weapons bunkers, the total beta counts per minute recorded by the detector provide a sensitive measure of the beta radiation present in the bunkers.

Comment 7. *Appendix A. The present "swipe" method does not measure fissionable materials (Plutonium-239 and Uranium-235) that would be evident from a radioactive material*

spill of some type. It provides an incomplete assessment because it only measures fission products from fallout (that is, an explosion).

Response: The scintillation counting method measures beta particles generated during radioactive decays. Although plutonium-239 and uranium-235 do not generate beta particles during their decays, several of the daughter isotopes from decay of plutonium-239 and uranium-235 produce beta particles that are measurable by the scintillation counting method. Therefore, the presence of radioactive materials, including plutonium-239 or uranium-235, would be detected by the chosen method.

EDITORIAL COMMENTS

Comment 8. *In the interest of saving paper, please consistently use double-sided copying.*

Response: Reports will be double sided, where practicable, in the future.

Comments From Mr. Chou, DTSC

SPECIFIC COMMENTS

Comment 1. *Section 3.1, Page 5, Third Paragraph. It is stated that soil contamination was found during the removal of Tank 22. Please clarify if Tank 22 has been included in Petroleum Sites Investigation and Corrective Action Plan. If not, when will further investigation be conducted?*

Response: The work plan will be revised to state that Tank 22 will be investigated by the Navy during the routine tank removal and cleanup program.

Comment 2. *Section 3.1, Page 5, Fifth Paragraph. The additional groundwater monitoring data (August 1994) should be presented in this work plan to show if any further investigation will be necessary. In addition, the explanation about the site inspection in August should be included in this work plan.*

Response: The work plan will be amended to discuss analytical results from the most recent groundwater samples collected in the area of these weapons bunkers. The results from August 1994 groundwater sampling show that groundwater from wells W3-8, W3-11, W3-20, and W3-21 does not contain VOCs. This information will be included in the work plan. The area was visually inspected. PRC also conducted two CPTs within the weapons bunkers area. No bunkers were entered during this visual site inspection.

Comment 3. *Section 5.0, Quality Assurance Project Plan. The Navy should keep data validation process on schedule. In the last few months, several postponements were reported by Navy contractors. Any more delay will impede the ongoing station-wide remedial investigation activities.*

Response: The Navy will work to reduce delays in the data validation process.

Comment 4. *Section 5.0, Quality Assurance Project Plan. A brief description of Data Quality Objectives should be addressed in the work plan.*

Response: A brief review of data quality objectives for this project will be included in the work plan.

Comment 5. *Page 25, Table 5. It may be appropriate to add a column of analytical methods in this table.*

Response: Analytical methods will be included on Tables 1, 2, 3, and 5.

Comments From Mr. Bessette, RWQCB

GENERAL COMMENTS

Comment 1. *Please provide the rationale for the exclusion of sample collection in the area of Weapons Bunkers 70 - 74, 143, 147, and 528.*

Response: No stained soil inside the fenced area has been identified during visual site inspections by PRC and CANG. In addition, the bunkers are used only to store ordnance, no waste generating operations occur in this area. Groundwater monitoring wells have also been installed around the fenced area. Groundwater samples from these wells have been collected and analyzed. Results of this sampling do not indicate a potential source within the weapons bunker area. These data will be presented in a table in the draft final work plan. In addition, Lt. Col. Francisco of CANG indicated the area has been visually evaluated by CANG and no contamination has been found.

Comment 2. *Please include analytical methods in all tables and in text when identifying analyte.*

Response: Analytical methods will be added to Tables 1, 2, 3, and 5.

Comment 3. *Figures 4, 5, and 6: Please incorporate date specific groundwater monitor data collected from the existing A1 Zone Monitoring Wells for the determination and addition of the A1 aquifer gradient.*

Response: Date-specific water level data for the wells shown in each figure will be added.

SPECIFIC COMMENTS

Comment 4. *Section 3.1, Page 5, First Paragraph. Include a physical description of a magazine.*

Response: A magazine consists of a heavy gauge, corrugated steel arch that forms the magazine roof and sides. The magazine floor is concrete. Each magazine is approximately 30 feet long, 20 feet wide, and 20 feet high. This description will be added to the work plan.

Comment 5. *Section 3.1, Page 5, Second Paragraph. Consider incorporating the following alternative verbiage; laboratory analysis of the cement apron on the south side of the bunkers did not detect (X, Y, Z analytes), in place of "free of contamination".*

Response: The site inspection conducted by PRC was a visual inspection only. No sampling was conducted. However, no staining of the concrete apron was observed and the

concrete is in good condition. This section will be revised to state that a visual inspection did not reveal any stained areas on the concrete.

Comment 6. *Section 3.1, Page 5, Third Paragraph. Specify what types of contamination were noted and how this was assessed, that is, visual, photoionization detector (PID).*

Response: Oil-stained soil was observed during removal of Tank 22. This information will be added to the work plan.

Comment 7. *Section 3.1, Page 5, Fifth Paragraph. The first, third, and fifth sentences of this paragraph use the term contamination without clearly stating how it was determined and what type of contamination was being evaluated. Please clarify.*

Response: This paragraph will be revised to more clearly describe the types of evaluations conducted in the weapons bunkers area and their results.

Comment 8. *Section 3.1, Page 5, Fifth Paragraph. State if any chemical analysis has been performed on groundwater samples collected from the perimeter wells and, if so, include a brief summary of the results. State approximate depth to groundwater.*

Response: Results of analyses of groundwater samples from the perimeter wells will be presented in the draft final work plan. The results from August 1994 groundwater sampling show that groundwater from wells W3-8, W3-11, W3-20, and W3-21 does not contain VOCs. The quarterly groundwater monitoring report for February, 1994 indicates that the depth to groundwater in this area is about 5 to 8 feet. The depth to groundwater will be included in the text.

Comment 9. *Figure 4, Page 7. Based on the given direction of the regional groundwater flow direction, consider moving the proposed location of WSW-3 approximately 200 feet to the east-northeast, (to the area of CPTSW-4). Include the A1 gradient to allow for better downgradient location selection.*

Response: The exact location of well WSW-3 will be determined after the CPT investigation is complete. Well WSW-3 will be located in an area containing permeable sediments. The approximate groundwater flow direction for the A1 aquifer in this area is

presented in quarterly groundwater monitoring reports, and it will be included on Figure 4. Wells installed as part of this investigation will allow more accurate assessment of groundwater flow direction in this area.

Comment 10. *Section 3.2, Page 9, First Paragraph. Include a physical description of the airplane parts.*

Response: The presumed airplane parts consisted of several pieces of sheet aluminum and some electronics equipment. This information will be added to the work plan.

Comment 11. *Section 3.2, Page 9, Second Paragraph. State approximate depth to groundwater.*

Response: The depth to groundwater will be included. The depth to groundwater in the area of golf course landfill 3 is approximately 4 feet according to the quarterly groundwater monitoring report for February, 1994.

Comment 12. *Figure 6, Page 11. Based on the given direction of the inferred regional groundwater flow direction, consider moving the proposed location of CPTSW-9 and WSW-6 approximately 200 feet to the east. Include the A1 gradient to allow for better downgradient location selection.*

Response: In this area, sand channels strongly influence to the path of groundwater flow. The location of well CPTSW-9 was selected to assist in evaluating whether a sand channel in the area of the flux ponds continues toward the location of CPTSW-9. Therefore, it is proposed that the location of well CPTSW-9 not be moved. The A1 aquifer groundwater flow direction will be added to Figure 6.

Comment 13. *Section 4.4, Page 18, Third Paragraph. Include a method to permanently identify the monitor wells.*

Response: A metal tag with the well number is routinely attached to the well casing of each new well.

Comment 14. *Section 4.8, Page 20. Specify a California licensed Land Surveyor.*

Response: Ronald R. Archer, Civil Engineering, Inc. is the California licensed surveyor selected for this work. This information will be included in the work plan.

Comment 15. *Section 7.0, Page 27. Scheduling to be determined.*

Response: The schedule for the field work will be revised to show the actual dates of the field work.

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PRC

January 12, 1995

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CLEAN Contract Number N62474-88-D-5086
Contract Task Order 0236

Subject: **Response to Regulatory Agency Comments on the Draft Station-wide Remedial Investigation Field Work Plan, Moffett Federal Airfield**

Dear Messrs. Chao and Chan:

Enclosed are two copies of the above-referenced document prepared by PRC Environmental Management, Inc. By cover of this letter, copies of these responses have also been sent to the appropriate Navy and regulatory agency personnel.

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

Sincerely,

Theodore T. Ball, Ph.D.
Geochemist

Michael N. Young
Project Manager

Enclosure

cc: Distribution List (attached)

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Moffett Federal Airfield

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