MOFFETT FEDERAL AIRFIELD

RESPONSE TO COMMENTS ON DRAFT FINAL INSTALLATION RESTORATION PROGRAM PETROLEUM SITES (AND WASTEWATER TANKS AND SUMPS) CORRECTIVE ACTION PLAN

November 4, 1994

This report presents point-by-point responses to regulatory agency comments on the September 1994 Draft Final Installation Restoration Program Petroleum Sites (and Wastewater Tanks and Sumps) Corrective Action Plan (CAP) prepared by PRC Environmental Management, Inc. (PRC) for Moffett Federal Airfield (Moffett Field), California. Mr. Ron Gervason of the San Francisco Bay Regional Water Quality Control Board (RWQCB) submitted comments in a letter dated October 5, 1994. Mr. Michael Gill of the U.S. Environmental Protection Agency (EPA) submitted comments in a letter dated September 27, 1994.

Comments from Mr. Ron Gervason, RWQCB

GENERAL COMMENTS

Comment 1: The report is well prepared and presented. However, this report is not a stand alone document and relies heavily on references to other documents, especially for analytical results. At a minimum Table 1 should be modified to summarize this information. As an alternative a summary table of analytical results could be included for each site. This table should include number of samples, number of detections, and detection limits. This is intended to provide a basis for statements regarding extent of contamination.

Response: *The effort required to provide complete data tables was discussed during telephone conversations with Mr. Ron Gervason (RWQCB) and Mr. Michael Gill (EPA) and PRC on October 31 and November 1, 1994, respectively. RWQCB and EPA agreed that the effort may not be warranted; however, the regulatory agencies indicated that a plan to present these data should be proposed. The Navy prefers not to provide these tables in this CAP, since the data summarized in the text and contamination*

figures adequately address the areas of concern. Additionally, the requested data have been provided previously in numerous reports and letters. In the future, the Navy recommends providing complete data tables in closure reports and full-scale corrective measure designs, since these data are required to prepare these documents.

Comment 2: The sections of the report on remedial alternative screening is presented at a level of detail greater than usually required for petroleum sites.

Response: Additional detail was provided to make the document more useful to project personnel and to assist with corrective measure planning.

SPECIFIC COMMENTS

Comment 1: Section 1, Page 3, Second Paragraph. The issue of Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) integration of wastewater tanks and sumps needs to be addressed more specifically. How will these units be included in the CERCLA process, will they be included in the sitewide remedial investigation (RI) or as part of some specific operable unit (OU)?

Response: Wastewater tanks and sumps will be treated just as any other CERCLA site at Moffett Field. Data from wastewater tanks and sumps will be included in the station-wide human health risk assessment, RI and feasibility study (FS) reports, and record of decision (ROD). Human health risks will be evaluated in a manner constant with the evaluation of other individual sites (such as operable unit 2 soil sites). Tracking of the wastewater tanks and sumps will be on an individual basis similar to other individual station-wide sites (such as Zook Road, Patrol Road Ditch, and golf course landfill 2). This explanation has been added to the CAP.

Comment 2: Section 2.2.2, Page 9, Fourth Paragraph. It may be appropriate to include the location of the nearest C-zone wells, their use (municipal or agricultural) and the current well status.

Response: Information regarding the nearest C-aquifer wells has been added to Section 2.2.2.

Comment 3: Section 2.3, Page 13, Fourth Paragraph. If a discussion of the french drain system is included it should be expanded to include at a minimum a description of drain depth as compared to the aquifer units and some discussion of the density of the drain system.

Response: *The purpose of this paragraph was to provide general hydrogeologic information regarding the A and B aquifers at Moffett Field. Additionally, the sites discussed in this report are not located near the runways. Therefore, details of the french drain system under the runways are not necessary. The referenced sentence has been removed for clarity.*

Comment 4: Section 3.2, Page 15, Second Paragraph. The discussion of cleanup levels should include a description of the intended use conditions to which they apply (commercial/industrial?) and some language to address changes in land use and potential changes in cleanup requirements.

Response: *Based on the Navy's evaluation of cleanup level options (PRC 1994a), the total petroleum hydrocarbon (TPH) cleanup levels for soil and groundwater represented by Scenario B meet risk-based concentrations for residential scenarios. Individual constituent cleanup levels for groundwater are set at maximum contaminant levels (MCLs) to meet drinking water standards. Individual constituent cleanup levels for soils are set a EPA's risk-based preliminary remediation goals (PRGs) for industrial scenarios. Therefore, the cleanup levels apply to all land use conditions (residential to industrial), with the exception of individual constituents in soils, which represent industrial use conditions. The current land use at Moffett Field is industrial-based. If future land uses become more conservative (such as residential), health risks associated with existing individual constituent concentrations in soils should be compared to current EPA residential PRGs or evaluated through a human health risk analysis. This explanation has been added to the cleanup level discussion in Section 3.2 of the CAP.*

Comment 5: Table 1, Pages 18-21. Consideration should be given to including a summary of analytical results in this table. This would eliminate questions about constituent analysis. The summary should include number of samples, description of detection

limits and analytes. Further detail could be referenced to appropriate reports. This suggestion is intended to improve the function of this document as a "stand alone report" and to improve public accessibility to the data.

Response: *Please see the response to RWQCB general comment 1.*

Comment 6: Table 1, Page 21. Please clarify the references to square yard (yd^2) and cubic yard (yd^3) in the notes.

Response: *The footnotes in Table 1 have been clarified.*

Comment 7: Section 4.1, Page 23, First Paragraph. If the soil contamination related to the Tank 26 excavation is of such limited extent that it cannot be plotted on Figure 4, this should be clearly stated.

Response: *The suggested statement has been included.*

Comment 8: Section 4.1, Page 23, Third Paragraph. Does the channel discussed here extend toward HP5-3 and well W5-34? The change in scales between Figures 5 and 6 and the lack of reference points of Figure 6 makes this unclear.

Response: *The channel deposit discussed in this paragraph and shown on Figure 6 does extend toward HydroPunch® sample HP5-3 and monitoring well W5-34. The reference point on Figure 6 is soil boring SB5-34, which is the boring that well W5-34 was constructed in. Well designation W5-34 has been added to Figure 6 for clarity.*

Comment 9: Section 4.1, Page 27, First Paragraph. The summary of contamination apparently does not address the groundwater contamination near HP5-3 and well W5-34. Is this contamination considered to be "minor"?

Response: *Since the groundwater contamination observed near HydroPunch® sample HP5-3 and well W5-34 most likely traveled along the channel deposit under Site 5, the most likely source is the soil contamination from the former dry wells near Tanks 11, 12, and 13 (Figure 4). Therefore, the groundwater contamination near HP5-3 and W5-34 is considered part of the contamination from the former dry wells near Tanks 11, 12, and 13 and it is not considered minor.*

Comment 10: Section 4.2, Page 29, First Paragraph. The statement that no benzene, toluene, ethylbenzene, and xylene (BTEX) compounds were detected should be clarified, either in the text or Table 1, by the inclusion of the number of samples that were analyzed for these compounds.

Response: *The referenced statement did not intend to indicate that BTEX constituents were not detected; rather it stated that no BTEX constituents were detected above cleanup levels. As stated in Section 4.0, only sample results above cleanup levels were presented (since these results indicate the areas requiring corrective action and are the focus of the CAP). Please also see the response to RWQCB general comment 1.*

Comment 11: Section 4.2, Page 29, Third Paragraph. Discussion of contaminants is restricted to TPH. BTEX should be included in the discussion, especially since the plume originates at a gas station.

Response: *A discussion of BTEX detections in groundwater has been added to the paragraph describing the Buildings 29 and 31 TPH contamination plumes.*

Comment 12: Section 4.4, Page 33, Second Paragraph. The correlation between soil and groundwater contamination is low. This should be discussed. Is this an artifact of sampling or is there some other explanation? Additionally, the discussion of contamination should include the BTEX components since the detections are for TPH as gasoline. Again this discussion should be supported by Table 1 or in the text by a summary of the analytical results.

Response: *Figures 11 and 12 depict the areas of soil and groundwater contamination. The area of soil contamination to the north that appears not to correlate with the groundwater contamination may be caused by a surface spill or pipeline leak. This explanation has been included. This area is included as requiring corrective measures. A summary of BTEX constituent concentrations in soil and groundwater samples has been provided in the text.*

Comment 13: Section 4.5, Page 36, First Paragraph. The issue of sampling for volatile organic compounds (VOCs) in Sump 25 should be addressed and a location map of Sump 25 should be included. Did other potential sources of contamination also drain to this sump?

Response: *Data regarding Sump 25 were provided as general background information for completeness. This sump is located near the Naval Exchange (NEX) gasoline station at Moffett Field. A separate investigation and evaluation of the underground storage tanks (USTs) and sumps (including Sumps 25 and 42) at the NEX gasoline station is ongoing. Once complete, a separate CAP will be prepared documenting the nature and extent of contamination and proposed corrective measures for all contamination associated with the NEX gasoline station (including Sump 25). Therefore, additional information regarding Sump 25 will not be provided in this CAP. This explanation has been added to Section 4.5 for clarification.*

Comment 14: Section 4.5, Page 37, Third Paragraph. Metals may also be a constituent of concern for leakage from Sump 62. Was analysis for inorganics included in this investigation? This should be included in any future activities at this location. To eliminate VOCs from concern at this location additional information should be included. This additional information should not be limited to levels of contaminants detected, but should also include specific contaminants detected. Due to the presence of VOCs and possibly inorganics this site should be included in the CERCLA program.

Response: *Data collected at Sump 62 by the National Aeronautics and Space Administration (NASA) have been summarized. These data indicate VOC concentrations beneath Sump 62 are consistent with concentrations in the regional VOC plume that underlies Building 45 and Sump 62. Therefore, Sump 62 is not considered a VOC source. NASA's investigation did include analysis for inorganic constituents; there were no detections above concentrations typically seen in the soils at Moffett Field. As described in Section 1.0, Purpose and Scope, Sump 62 is already listed as one of the petroleum sites that will be included within the CERCLA program, including the station-wide human health risk assessment, RI, and ROD.*

Comment 15: Section 4.5, Page 39, Third Paragraph. Sump 130 should be included in the CERCLA program since the potential contaminants of concern are acids, VOCs, and inorganics. To eliminate Sump 130 from concern additional information will be required. Of particular interest is the basis for the statement that no inorganics present did not represent contamination.

Response: *As described in Section 1.0, Purpose and Scope, Sump 130 is already listed as one of the petroleum sites that will be included within the CERCLA program, including the station-wide human health risk assessment, RI, and ROD. Additionally, Sump 130 was investigated during January and February 1994 as part of the additional petroleum sites investigation. Data from samples collected at this sump are contained and discussed in the Additional Petroleum Sites Investigation Technical Memorandum (PRC 1994b). The sampling and analysis were based on the field work plan approved by the regulatory agencies. During this investigation four soil samples were collected from two soil borings (GP65-1 and GP65-2) placed on each side of the sump. Sample analyses were consistent with sump contents (battery acids) and included VOCs and inorganics. Analytical results indicated no detections of VOCs and inorganic concentrations within levels typically seen in soils at Moffett Field. Additionally, one HydroPunch® sample (HP65-1) was collected downgradient of Sump 130 and analyzed for VOCs and metals. Analytical results revealed no detections of VOCs and inorganic concentrations within levels typically seen in groundwater at Moffett Field. The investigation technical memorandum contains the specific soil and groundwater inorganic concentrations. This explanation has been added to the Sump 130 discussion in Section 4.5 of the CAP. Please also see the response to RWQCB general comment 1.*

Comment 16: Section 4.6, Page 42, First Paragraph. Tank 43 should be included in the CERCLA program since the potential contaminants of concern are acids, VOCs, and inorganics. This discussion of contamination at Site 19 should include presentation of analytical results for pH, VOCs, and inorganics.

Response: *As described in Section 1.0, Purpose and Scope, Tank 43 is already listed as one of the petroleum sites that will be included within the CERCLA program, including the station-wide human risk assessment, RI, and ROD. Please also see the response to RWQCB general comment 1.*

Comment 17: Section 4.6, Page 45, First Paragraph. The discussion of the detection of TPH extractable at Tank 14 should include the total number of soil samples that were collected. It should also be indicated whether the single detection is above the proposed cleanup standards for this compound.

Response: *All soil samples collected at the former Tank 14 area (a total of eleven samples) were analyzed for TPH extractable. The single detection of TPH extractable as diesel, measuring 1,700 milligrams per kilogram (mg/kg), is above the cleanup level of 400 mg/kg. However, analytical results from six additional samples collected adjacent to this detection revealed no detections of TPH extractable as diesel. These data are discussed in the petroleum sites characterization report (PRC 1994c) and will be presented in a closure report. These data indicate that the remaining contamination is very localized and small in extent. Furthermore, a groundwater monitoring well adjacent to former Tank 14 (WT14-1) has revealed no detections of TPH. Although a small area of contamination above the cleanup level may remain, the Navy proposes no further action because Tank 14 has been removed, groundwater has not been affected, and the cost of remediation exceeds the benefit of remediating such a small area. This explanation has been added to the CAP.*

Comment 18: Section 5.3, Page 52, Fourth Paragraph. It is unclear if an actual National Pollutant Discharge Elimination System (NPDES) permit will be required for this treatment system.

Response: *A NPDES permit is not required since the Site 9 source control measure is being conducted in accordance with the west-side aquifers CERCLA action. CERCLA, however, requires that permit requirements be followed. This explanation has been added to the CAP.*

Comments from Mr. Michael Gill, EPA

GENERAL COMMENTS

Comment 1: Overall, this document is a tremendous improvement over the draft version. It is important to note the negotiations held between the Navy and the agencies where agreement on the cleanup levels were reached. It is also a much more complete feasibility study of the proposed alternatives, although many still require treatability studies before a selection is made. EPA encourages this use of innovative technology, but does not want it to unnecessarily postpone the start of remediation. The Navy needs to provide schedules for these activities in the final version of this document. It

is important to note that some of the technologies being tested during the pilot studies are in fact well documented and in use at other sites and may not need additional studies.

Response: *A schedule for the petroleum sites pilot tests has been provided in Section 8.1. These pilot tests are necessary to gather site-specific design parameters. Even well-documented technologies require site-specific information for design evaluation and optimization.*

Comment 2: Is NASA's Comprehensive Use Plan for Moffett Field an approved document? It is dated August of 1993, but I don't believe the regulatory agencies have seen it. Is it a final document? Was Navy in on the review cycle?

Response: *The status of the National Aeronautics and Space Administration's Comprehensive Use Plan was discussed during a telephone conversation with EPA and PRC on November 2, 1994. The final plan was submitted August 1994 after review by the appropriate parties. The CAP was revised to reference the final plan.*

SPECIFIC COMMENTS

Comment 3: Section 4.5, Page 36, Tank 54. Trichloroethene (TCE) detected in a sidewall sample at 24 micrograms per kilogram (µg/kg) is above the MCL of 5 µg/kg, which is the cleanup level. Please correct this statement.

Response: *Currently, there are no cleanup levels established for VOCs in soils on the eastern side of Moffett Field where former Tank 54 was located. Soil cleanup levels established for the petroleum sites include TPH extractable as diesel and JP-5, TPH purgeable as gasoline, BTEX, and semivolatile organic compounds (SVOCs). Cleanup levels for VOCs in soils have been established for the western side of Moffett Field through the Middlefield-Ellis-Whisman record of decision at 100 times the corresponding MCL for a particular VOC constituent. (For TCE, this would equate to a cleanup level of 500 µg/kg, since the MCL for TCE is 5 micrograms per liter [µg/L].)*

As a point of comparison, the EPA Region 9 PRG for TCE in soils is 3,300 µg/kg for residential scenarios and 7,300 µg/kg for industrial scenarios (EPA 1994). Although EPA Region 9 PRGs for VOCs are not agreed upon cleanup levels for Moffett Field, they present a good basis for order of magnitude comparisons. Since the TCE detection at Tank 54 (24 µg/kg) is significantly lower than both established TCE cleanup levels on the western side of Moffett Field (500 µg/kg) and EPA PRGs (3,300 and 7,300 µg/kg), the Navy recommends no further action for this site. This explanation has been included with the Tank 54 description.

Comment 2: EPA Comment 4, Table 1, Page 21. The footnotes for yd^2 and yd^3 appear incorrect.

Response: *The footnote in Table 1 has been corrected.*

Comment 3: EPA Comment 5, Section 4.3, Page 31, Last Paragraph. Please provide a schedule for the additional investigation required for Site 12.

Response: *The additional investigation at Site 12 will occur in conjunction with the station-wide remedial investigation field work, scheduled for November 1994. This explanation has been added to the referenced section.*

Comment 4: EPA Comment 6, Section 4.6, Page 45, Tank 14. If a soil sample shows a detection of 1,700 mg/kg of TPH as diesel, and the cleanup level for diesel is 400 mg/kg, how can closure be recommended? Cleanup must be complete before closure can be approved.

Response: *Please see the response to RWQCB specific comment 17.*

Comment 5: EPA Comment 7, Section 4.6, Figures 16-19. The document states on pages 3 and 14 that CERCLA substances found present in wastewater tanks and sumps at Site 15 and 19 will be addressed in the site-wide documents. The maps in this document should reflect those VOC/SVOC levels found in those areas (that is, Tanks 2 and 43 in Figures 16-19). If the risk does prove to be unacceptable, those tank and sump areas will have to be handled by the CERCLA process.

Response: *These data have been generally summarized in the text and have been previously provided in the referenced reports. Please see the response to RWQCB general comment 1. Therefore, the referenced figures have not been updated. To address CERCLA requirements, all analytical data collected from the wastewater tanks and sumps (listed in Section 1.0 of the CAP) will be included in the station-wide human health risk assessment and RI report. Any remedial actions, if required, will occur through the station-wide FS, ROD, and associated remedial work plans and designs.*

Comment 6: EPA Comment 8, Section 8.0. Please include any treatability study schedules that you intend to perform.

Response: *A schedule for the pilot tests has been provided in Section 8.1.*

Comment 7: EPA Comment 9, Page 109. Please include schedules for the corrective action designs.

Response: *The schedule for full-scale corrective action designs will be determined, in part, by the results of the Phase I pilot tests. A schedule will be proposed in the evaluation technical memorandum that will be prepared to document the test results. An explanation has been added to Section 8.1.*

REFERENCES

U.S. Environmental Protection Agency (EPA). 1994. Region IX Preliminary Remediation Goals (PRGs), Second Half 1994. San Francisco, California. August.

PRC Environmental Management, Inc. (PRC). 1994a. Technical Memorandum Petroleum Sites Petroleum Cleanup Level Analysis. Naval Air Station Moffett Field, California. March.

PRC. 1994b. Draft Additional Petroleum Sites Investigation Technical Memorandum. Naval Air Station Moffett Field, California. June.

PRC. 1994c. Revised Final Installation Restoration Program Petroleum Sites (and Wastewater Tanks and Sumps) Characterization Report. Naval Air Station Moffett Field, California. January.