

MOFFETT FEDERAL AIRFIELD

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

January 4, 1994

This report presents point-by-point responses to National Aeronautics and Space Administration (NASA) comments on the September 1994 Draft Final Installation Restoration Program (IRP) Petroleum Sites (and Wastewater Tanks and Sumps) Corrective Action Plan (CAP) prepared by PRC Environmental Management, Inc. for Moffett Federal Airfield (Moffett Field), California. Ms. Sandra Olliges of NASA submitted comments in a letter dated October 5, 1994.

Comment 1: Cleanup standards for petroleum contamination - If there is a change in cleanup levels for soils or a change in the use of the area where soils from any Navy identified and additional sites have been placed, it is NASA's position that the Navy will be responsible for the remediation of the soils to the new cleanup levels, or to meet the new criteria. Please use this language in the final CAP.

Response: *The issue of future land use changes and liability has not been resolved by Navy legal counsel. Therefore, at this time, it is not appropriate to include such language in the CAP.*

Comment 2: Cleanup standards for oil and grease - NASA requests cleanup levels for oil and grease in soils.

Response: *The Navy has developed and negotiated cleanup levels for total petroleum hydrocarbons (TPH) extractable as diesel, TPH purgeable as gasoline, benzene, toluene, ethylbenzene, and xylene (BTEX), and polynuclear aromatic hydrocarbons (PAHs) in soils and groundwater. These cleanup levels have undergone extensive regulatory review and comment and are deemed protective of human health and groundwater quality. The Navy believes that these levels are sufficiently protective and oil and grease cleanup levels would not provide greater protection. The Navy*

continues to actively pursue cleanup of chemicals that pose a threat to human health and the environment and to develop cleanup levels in the absence of state or federal promulgated levels. Since oil and grease (and TPH extractable as motor oil) do not pose a threat to human health and the environment and they are far less toxic and mobile than the above listed petroleum compounds, cleanup levels were previously not established. In the interest of satisfying regulatory agency interest in this matter, however, the Navy has agreed to conduct another cleanup level evaluation for oil and grease and TPH extractable as motor oil.

Comment 3: NASA would like to clarify as to the disposition of contaminated soils left at Site 12 if the area is excavated at a later date (understanding that they were left due to the proximity to Zook Road and the west parallel taxiway). The lateral extent of contamination has not been defined.

Response: The Navy appreciates NASA's clarification. This issue was noted in the CAP and an additional investigation to evaluate the lateral extent of contamination was recommended. (This investigation was conducted during October and November 1994.)

Comment 4: Have the sludge pits (Tank 136 and Sump 4) associated with the truck wash rack near Building 146 been assessed in the Navy's tank and sump investigations (and the Site 14 South investigations)?

Response: The CAP was prepared to address petroleum contamination at IRP tank and sump sites. Tank 136 and Sump 4 are not included with any IRP sites and, therefore, are not addressed in the CAP. These sites, however, will be addressed through the Navy's tank and sump closure program, as will all tanks and sumps installed at Moffett Field by the Navy (with the exception of those tanks and sumps NASA plans to use).

Comment 5: A discrepancy is present between the recommendations (Section 8.0) for Site 5 which indicates groundwater exceeds the TPH cleanup level (700 micrograms per liter [$\mu\text{g/L}$]) in the areas of Tanks 9, 11, 12, and 13. Figure 5 does not indicate Tank 9,

but shows Tank 5 as being over the cleanup level. Please clarify which area(s) are above the cleanup level.

Response: The discrepancy has been clarified, the referenced contamination is associated with Tank 5 not Tank 9.

Comment 6: The list of ten underground storage tanks (USTs) and five sumps recommended for elimination from the IRP petroleum sites process (on Page 99) include several inactive tanks and sumps (such as 8, 18, 62, 64, and 130). Is the Navy going to remove these tanks and sumps (except 62 and 64, which NASA is removing)?

Response: The Navy will remove or abandon all tanks and sumps installed by the Navy that are no longer needed. The Navy also maintains responsibility for contamination caused by Navy operations at these tanks and sumps. Regarding the tanks and sump listed in this comment, Tank 8 will be removed during spring 1995, Tank 18 was removed during fall 1994, and Sump 130 will be removed during summer 1995.

Comment 7: Specific recommendations are listed below for particular tanks and sumps on the elimination list:

- a. Sump 130: The City of Sunnyvale reported (June 28, 1990) a pH of less than 2.0 in manhole number 2, one mile downstream of Building 575. It was estimated that the amount of acid disposed of was between 10 to 100 gallons. Approximately one mile of sewer piping contained pH levels of less than 2.0.

The Navy has previously stated in comments to the Phase I Building Assessments (dated December 3, 1993) that they do not believe sampling beneath the building and lines is necessary because any low pH conditions would be mitigated and any lead contamination is not accessible to the environment. Have these lines been reviewed in the horizontal conduit or groundwater infiltration studies?

Response: Four soil samples and one HydroPunch® sample were collected from Sump 130 and analyzed for inorganic compounds and volatile organic compounds (VOCs) during the

additional petroleum sites investigation (PRC 1994b). Analytical results from both soil and groundwater samples revealed no VOC detections and showed inorganic concentrations within levels typically seen at Moffett Field. The lines from Sump 130 have not been considered in the horizontal conduit study.

- b. Sump 63: The sand blasting area should be adequately contained to prevent migration of sand, metals, and/or solvents through runoff to the GSE inlet.

In previous comments (Navy comments to Phase I Site Assessment Reports dated February 8, 1994), the Navy indicated that the area around Sump 63 was scheduled for additional field investigations beginning January 1994; specifically, that soil and groundwater samples were scheduled to be collected and analyzed for VOCs, metals, and petroleum constituents. Has this effort been completed? What are the results?

Response: The responsibility for on-going activities associated with sump operations now rests with NASA. Furthermore, as previously stated in the CAP, four soil samples and one HydroPunch® sample were collected during the additional petroleum sites investigation and analyzed for TPH extractable, TPH purgeable, oil and grease, inorganic constituents, and VOCs (PRC 1994b). Analytical results did not reveal indications of contamination.

Comment 8: Tanks 4, 6, 7, and 8 are also listed to be eliminated. It is NASA's understanding that these tanks are to be removed (during January 1995). Is this correct? Please confirm that any contamination will be addressed at the time of removal of the tanks.

Response: The CAP has been revised to state that these tanks will be removed in early 1995. Any contamination identified during the removals will either be excavated (if the extent of contamination is limited) or an in situ treatment technology will be employed (if the extent of contamination is large).

Comment 9: It is NASA's understanding that Tank 18 has been removed. Was any contamination identified with this tank?

Response: Tank 18 has been removed; data, however, were not available for inclusion in the CAP. These data, when available, will be provided to NASA.

Comment 10: Page 48: There were at least 142 tanks and sumps in the inventory of all tanks and sumps at Moffett Field.

Response: The current status list of tanks and sumps at Moffett Field indicates a total number of 150. The CAP has been revised accordingly.

Comment 11: Any remedial measures requiring air injection, extraction and/or venting should locate all basement and utility vaults and take appropriate monitoring and safety measures to eliminate accumulation of vapors.

Response: Factors such as vapor accumulation in basements and utility vaults will be considered when remedial designs are prepared.

Comment 12: Figure 12 has a reported 250 µg/L TPH concentration (monitoring well W14-4) outside of the 50 µg/L contoured area. Are the wells with no values non detect or not sampled?

Response: The detection of TPH in a sample from monitoring well W14-4 was not depicted in the groundwater contamination plume because samples from wells on either side of well W14-4 (W14-6 and ERM-2) did not have detections above cleanup levels. This detection, however, has been considered in the Site 14 South evaluation report (PRC 1994a) and the Phase II remedial design currently being prepared for Site 14 South.

All figures in the CAP depict areas of contamination above cleanup levels (thus requiring remedial action). Analytical results from sample locations without concentrations listed, therefore, are below cleanup levels.

REFERENCES

PRC Environmental Management, Inc. (PRC). 1994a. Technical Memorandum Site 14 South Evaluation. Naval Air Station (NAS) Moffett Field, California. June.

PRC. 1994b. Additional Petroleum Sites Investigation Technical Memorandum. NAS Moffett Field, California. June.



January 4, 1994

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

**Subject: Responses to NASA Comments on the Draft Final Installation Restoration
Program Petroleum Sites (and Wastewater Tanks and Sumps) Corrective Action
Plan, Moffett Federal Airfield**

Dear Messrs. Chao and Chan:

Enclosed please find three copies of responses to the National Aeronautics and Space Administration's comments on the above-referenced report prepared by PRC Environmental Management, Inc.

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

Sincerely,

A handwritten signature in cursive script, appearing to read "Brian Werle".

Brian Werle
Project Engineer

A handwritten signature in cursive script, appearing to read "Michael N. Young".

Michael N. Young
Project Manager

Enclosure

BW/cmg

cc: Lt. Susanne Openshaw, Moffett Field (letter only)
Mr. Don Chuck, Moffett Field
Ms. Sandy Olliges, NASA

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