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MOFFETT FIELD
SSIC NO. 5090.3.A.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, Ca. 94105

29 March 1991

Mr. Stephen Chao
Naval Facilities Engineering Command
Western Division, Code 18
Office of Environmental Management
900 Commodore Drive, Bldg. 101
P.O. Box 727
San Bruno, CA 94066-0720

Dear Mr. Chao:

Enclosed are the comments of the Environmental Protection Agency (EPA) to Site 8 Waste Oil Transfer Area, Draft Action Memorandum and Site 9 Draft Action Memorandum for Naval Air Station Moffett Field.

If you have any questions please contact me at (415) 744-2412.

Sincerely,

Lewis Mitani
Remedial Project Manager

enclosure

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EPA Comments to
Site 8 Draft Action Memorandum
Naval Air Station Moffett Field

General Comments:

1. All appendices should include references for all data presented.

2. The regional groundwater plume should be shown on a figure and described in the text. Groundwater flow directions should be shown both at Site 8 and with respect to the entire NAS Moffett site. Compare concentrations found at Site 8 to regional plume concentrations. This will help in the determination of the necessity of source control at the site.

3. The soil boring logs did not reproduce well; the document should contain easily readable boring logs.

Specific Comments:

1. Page 6, 3rd Paragraph

The emphasis of source control could be soil remediation if soils were determined to be significantly contaminated and a health risk to humans (i.e., from airborne contaminants). This possibility should be considered in a paragraph.

2. Page 6, Section 2.1 Site Background

How were the waste oils and solvents disposed of after being pumped into the transfer tank? Lindberg drainage ditch lies in close proximity to Site 8. Was it possible that the tank wastes were disposed of in Lindberg drainage ditch?

3. Page 8, Figure 3 Site Map

Labeled streets, Lindberg drainage ditch, Site 8 boundaries and Navy/NASA property boundaries should be on the figure. Also, is there a CPT/H8-9? Figure 3 should include all wells in the vicinity of Site 8, including all MEW wells to date.

4. Page 10, Section 2.2.4 Base-Wide Hydrogeology

This section should discuss tidal influence on groundwater levels.

5. Page 16, Table 2

Phase I activities included the installation of 6 monitoring wells. This should be reflected in the table.

6. Page 17, 2.3.1 Soil Analytical Results, 1st Paragraph

Were soil samples collected from all Phase I and II monitoring wells at Site 8? Specify which wells had soil samples and include in this section soil sample results from wells in the area including such wells as MEW wells.

7. Page 17, 3rd Paragraph and Figure 7

The development of the baseline metal content of soils in the Draft Phase I Characterization Report is being re-evaluated due to inherent erroneous assumptions. In the draft Phase I Report, values below the detection were not used in estimating background levels. Because values below the detection are an integral part of the normal range, they cannot be dismissed. Background values have yet to be established and will likely be less than reported in the Phase I report. Soil contamination should be re-examined in light of this fact.

8. Page 18, Table 3

This table needs more explanation. What is the Well 18 information? What wells were sampled and at what depths in order to obtain the given information? Specify what area of the country the USGS range relates to. The table should show specific Site 8 soil information for comparison purposes.

9. Page 19, Figure 6

Soil sample results were not given for MEW82 and MEW92. Include results or state the reason for not including the results.

Soil sample results were not given for W08-01 and W08-03. Please include on the figure.

Results for SB8-08 are directed to what looks like W8-10. Please clarify.

SB8-3 detects MEK at 20 ug/kg (at 3'). Please rectify.

10. Page 20, Top (from the paragraph on the previous page)

See specific comment 7. The baseline values from the Draft Phase I Characterization Report were used in this paragraph's comparison; however, background values are likely to change for the final Phase I report or as more data is generated during the RI.

11. Page 22, Table 5

Information on MEW92 is missing.

12. Page 25, Figure 7

Soil results for W8-01, MEW82, and MEW92 are missing from the figure.

13. Page 26, Figure 8

An organic contaminant block should be shown for hydropunch CPT/H8-17. Why are results for H8-4 and H8-5 not available? Hydropunch CPT/H8-19 should show PCE at 5 ug/L. Hydropunch CPT/H8-6 should have TCE at 24 ug/L. Well W8-5(A2) should have 1,1,1 TCA from 22-37 ug/L. Well W8-1(A2) should have 1,1,1 TCA from 6-18 ug/L. Hydropunch H8-2A is presented but H8-2B is not. Hydropunch H8-2A should not have 1,1 TCE at 19 ug/L in the block. MEW92 data should be shown on the figure.

14. Page 28, 2nd Paragraph

See specific comment 7 regarding the Draft Phase I Characterization Report.

15. Page 29, Table 7

See specific comment 7. Why is data from Site 10 (well W10-06(C)) provided? This does not relate to Site 8. Site 8 information should be provided on the table for comparison.

EPA Comments to
Site 9 Draft Action Memorandum, Volumes I and II
Naval Air Station Moffett Field

General Comments:

1. All tables, figures, and plates should show the reference(s) to make the report more useful and complete.

2. Migration patterns of the contaminants should be better described, especially in terms of the vertical migration from the A-Aquifer to the B-aquifer. Groundwater flow directions for Site 9 should be provided on a figure.

3. Because the design costs are based on disposal of the effluent to the POTW, Sunnyvale POTW should be contacted in the early stages of planning to verify discharge capability.

4. The "regional MEW plume" and its relationship to Site 9 should be described and identified on a figure.

5. All analytical data in the report should be included in appendices or specifically referenced throughout the report.

6. To accurately characterize the site, all available information about the site's contamination should be investigated and discussed in this report. All wells in the vicinity of Site 9 should be shown on a figure and all pertinent past analytical results presented.

Specific Comments:

1. Page 10, 3rd Paragraph

Explain how the ponds act as a buffer zone between the base and the bay.

2. Page 13, Figure 4

IT Corporation labeled the uppermost aquifer the 'A1'-aquifer, not the 'A'-aquifer. Please clarify.

3. Page 17, Figure 5

What information supports the location of the hypothetical

divide between areas of hydrocarbon contamination and chlorinated solvent contamination? As given in Table 2 (page 22), areas 9E, 9F, and Building 88 contain benzene at or above 1,000 ppb and 9E and Building 88 contain toluene at or above 1,000 ppb. Additionally, areas 9A, 9B, and 9C contain chlorinated organics above 1,000 ppb. Contamination values do not support the hypothetical divide.

4. Page 28, Section 3.2.5 Water Level Measurements

Plate 2 references W9-7 as a B1-aquifer well and this section references it as an A-aquifer well. Please clarify.

5. Page 28, Section 3.3.1 Soil Contamination

This section states that analytical results for monitoring wells W9-20 and W9-24 were not available. Explanation is needed on the reason(s) for the unavailability of the results for these wells.

6. Page 30 and 31, Table 5

See general comment 1.

7. Page 33, 2nd and 3rd Paragraphs

Wells are referred to as 'FP9-1' and 'FP9-2' here and throughout the report but they are not shown as such on Plate 2. Please clarify. Wells W9-1 and W9-2 should be included in the report (i.e., Table 8, TCE concentrations).

8. Page 33, 4th Paragraph

Background values have not been finalized to date and may be less than referenced background values. See specific comment Number 7 for Site 8 Action Memorandum.

9. Page 34, Table 6

See general comment 1. Why have results for WO9-03, W09-14, and WO9-27 been omitted from table? The Draft Phase 1 Characterization Report (August 1990) contains analyses reporting that chlorinated organic contaminants were found in soils at these locations.

10. Page 38-40, Table 8

See general comment 1. According to the Phase I characterization Report (August 1990, page 9.1.14) W9-6 contained 1,1-DCE at a concentration of 6 ug/L. Please note on table.

See general comment 6. Hydropunch sampling results are not included for H9-16, H9-18, H9-23, H9-26, H9-32, H9-34, H9-38, H9-40, H9-42, H9-44, and H9-45B. These HP results should be included in the report and reviewed to obtain an accurate characterization of the site.

H9-1 should be H9-11 in the table and on Plate 1.

The 4th Quarter 1990 Report contains higher levels than reported for W9-18, W9-30, W9-16, W9-31, and W9-23. Also, show MEW-81 on Plate 2. See general comment 6.

11. Page 41, 1st Paragraph

What criteria were used to determine that in the vicinity of Building 45 the A aquifer is 'moderately contaminated'? What determines a 'moderate' amount of contamination? Why are H9-19 and W9-31 results inconsistent? Report H9-19 sample depth and W9-31 screen interval.

12. Page 42, Table 9

See general comment 1.

13. Page 44, Table 10

See general comment 1 and 6. According to the February 1990 Quarterly Report, W9-6, W9-7, W9-13, and W9-27 detected metal species in groundwater (i.e., 9.1-20). Also, W9-24 is not shown on the table. Please complete the table.

14. Page 46, 1st Paragraph

The reference should be included for the statement "Petroleum hydrocarbons in the soils were found only at the saturated/unsaturated zone interface.". Sample depths, water levels, and other information should be provided to support this conclusion.

15. Page 48, Section 3.4.3 Building 88

This section should discuss Building 88 in view of the high levels of benzene and toluene found in the area (See Table 2, page 22). A brief history of Building 88 with regards to it being a possible source of benzene and toluene would be helpful.

16. Page 49, Section 3.5 Potential or Actual Impacts on Surrounding Populations

See general comment 2. This report presents contamination in the A aquifer at Site 9 and does not evaluate the contamination in the B aquifer. How is it known that groundwater contamination is primarily confined to the A aquifer? In order to state this, sufficient evaluation or the B aquifer needs to be presented. As evident in the 4th Quarter 1990 Report and the Phase 1 Characterization report, TCE and other chlorinated organics are present in the B aquifer. Additionally, there is close proximity between the A and B1 aquifers and they are likely to be hydraulically connected. Site 9 has been in operation for many years and it is likely that contamination from Site 9 has migrated from the A aquifer to the B1 aquifer and further.

17. Page 53, Section 4.4.1, Building 29

According to this report (page 46), results suggest that a source of 1,2 DCE is near Building 29. The A-aquifer in the vicinity is contaminated with chlorinated organics. Include in this paragraph that additional information for Building 29 may indicate that other target compounds will be included.

18. Page 53, Section 4.4.3, Building 31

The NEX service station had one 500-gallon waste oil tank. Chlorinated organics were found in the A-aquifer in high concentrations. As stated in this report (page 47), data from sample HP-22 suggests the regional contaminant plume is not contributing to the chlorinated compounds found at the site. Shouldn't chlorinated organics be added to the list of target chemicals to meet the removal action objectives?

19. Page 56, Table 11

The following should be corrected on Table 11:

Barium: Federal MCLG is 2000 ug/L
1,1 DCA: State MCL is 5 ug/L
1,1 DCE: State MCL is 6 ug/L

cis 1,2 DCE: State MCL is 6 ug/L
trans 1,2 DCE: State MCL is 10 ug/L
cis 1,2 DCE: Federal MCL goal is 70 ug/L
trans 1,2 DCE: Federal MCL goal is 100 ug/L
methylene chloride: Federal MCL goal is 0.0 ug/L
Selenium: Federal MCL goal is 50 ug/L
Toluene: Federal MCL goal is 1,000 ug/L
Xylenes: Federal MCL goal is 10 ppm

Also include California TTLC (soil) for lead (1,000 mg/kg) chromium VI (500 mg/kg), arsenic (500 mg/kg), and chromium (2,500 mg/kg).

Clarification is needed on the RWQCB cleanup goal of 100 ppm for TPH. Please include a reference supporting this clean-up level. According to the Regional Board Staff Recommendations for Initial Evaluation and Investigation of Underground Tanks (2 June 1988), "The 100 ppm level is not a clean-up level. The origin of the 100 ppm level was to develop a method to prioritize the case load and indicate whether a significant volume of fuel had been released or discharged. The level if clean-up is to be determined by assessing the potential impact of residual soil contamination on the ground water. In many cases it may not be appropriate to leave soil in-place which is contaminated with total petroleum hydrocarbons or other compounds at any concentration."

How were the Proposition 65 ARARs obtained? Title 22 levels are presented in ug/day. Also, regulatory levels exist for methylene chloride (50 ug/day), Chromium (VI) (0.001 ug/day), and arsenic (10 ug/day). Beryllium and cadmium should also be included on the table.

20. Page 63, Section 5.2.2 Soils

Because soil treatment technologies requiring excavation of soils were not evaluated in this draft AM, the final AM should contain an evaluation of such.

21. Page 72, 5th Paragraph

Explain why discharge to the POTW is quicker. Design time may take longer with the addition of reinjection, but this may be outweighed by the shorter operation time.

22. Page 85, Section 7.2.3 Implementability

How will fill product be removed and be disposed?

23. Page 85, Top and Page 87, Figure 7

Are these wells part of Moffett's wells? If so, have they been sampled? What were the results? Include locations on Plate 2. See general comment 6.

24. Page 106, Figure 8

Indicate the approximate treatment unit location (as referenced in the legend).