STATE OF CALIFORNIA — ENVIRONMENTAL PROTECTION AGENCY

PETE WILSON, *Governor*

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

REGION 2
700 HEINZ AVE., SUITE 200
BERKELEY, CA 94710-2737

January 4, 1993

Western Division
Naval Facilities Engineering Command
Attn: Mr. Steve Chao
101 Commodore Way
San Bruno, California 94066-2402

MOFFETT FIELD OU-1 Remedial Investigation

Dear Mr. Chao:

The Department of Toxic Substances Control (Department) has reviewed the OU-1 remedial investigation report for NAS Moffett Field. The enclosed comments are forwarded to you for your consideration. Should you have any questions regarding the comments please call me at (510) 540-3821.

Sincerely,

Cyrus Shabahari

Cyrus Shabahari
Project Manager
Site Mitigation Branch

Enclosure

cc: US EPA
Region IX
Attn: Roberta Blank
Mail Code H-1-9
75 Hawthorne Street
San Francisco, California 94105-0720

RWQCB
San Francisco Region
Attn: Elizabeth Adams
2101 Webster Street, Suite 500
Oakland, California 94612

DTSC/OSA
Attn: Judy Parker
400 P Street, Fourth Floor
P.O. BOX 806
Sacramento, California 95812-0806

GENERAL COMMENTS:

1. Although inch by inch landfill investigation would be neither practical nor desirable; nonetheless, the extent of the contamination must be confidently established. From what is provided in the report, the Department can not agree with the landfill boundaries. The information provided is not adequate nor complete. The conclusion has been hastily drawn to shrink the sites. Although different investigations resulted in different site boundaries, only the smallest is selected. A comprehensive and detailed explanation is necessary to establish the site boundaries. This report must thus be revised.

2. There are numerous references to the number of OUs, OU definitions, and OU investigations. However, as a result of a recent modification to the overall cleanup program at Moffett Field, the OU definitions and investigations will be different. Please revise the report accordingly.

3. A detail discussion of background levels is absent from the report. It is essential to initially establish the background levels before furthering the investigation. Although, a brief reference on the Westside OU-4 background levels is mentioned; however, it is not clear if the same levels have been adopted for this OU.

4. Please explain how generated data in 1988 by different contractors were validated. Are they validated fully? Are the site investigation recommendations based on non or partially validated data?

5. It is important to demonstrate any possible correlation between pumping the water at building 191 and the leaching rate of the contaminants in the landfills. Previous studies have shown a cone of depression will result when the pump is in operation. It appears that pumping could accelerate the leaching. Please explain.

6. It appears that a number of independent investigations has resulted in different interpretation of the landfill boundaries. The purpose, and scope of these investigations must be identified if the results are to be used in the report. More importantly, the data quality will have to be acceptable to be permitted for further application. Even though the author believes that since 1988 no important alteration to the site has occurred, nevertheless, groundwater has migrated further, possibly into the wetland areas. Thus it is important to have recent data to establish

the site boundaries. This information will prove to be vital for any remediation system.

SPECIFIC COMMENTS:

1. Page xx, paragraph 3, please explain what the statement " above the disposal site detection limit..." means.

2. Page 2-4, paragraph 2, please explain what you mean by "drinking water supplies". Do you consider the A1 or A2 aquifers to be a drinking water supply? Furthermore, the Department disagrees with the conclusion that quality standards are irrelevant.

3. Page 2-4, paragraph 3, why was it concluded that the disparities between the leachate contaminants and the A aquifer suggest another source other than the landfills? In addition, the text does not provide information on the source, if this is believed to be the case. Please explain.

4. Page 2-5, paragraph 3, the North Base Investigation area does not include Site 12. Please correct.

5. Page 2-6, paragraph 2, the text inaccurately implies that no contamination is discharged into the Bay. However, it has been determined that pumping at building 191 discharges low levels of VOCs into the Bay. Please explain.

6. Page 2-8, paragraph 3, how do you determine that areas of low conductivity (<200 millisiemen/m) indicate areas of possible fill material? Why was it decided that the 200 millisiemen/m is the threshold level? Please explain the accuracy of the study.

7. Page 2-9, paragraph 3, from figure 2.3-9, the landfill boundary has changed three times. Why do you believe that your estimation is the most accurate one? And why was it determined to leave the burn pit outside of the landfill?

8. Page 2-10, paragraph 2, more information on the physical conditions of the landfills is needed. Please explain how the boundaries were determined before the site investigating was concluded.

9. Page 2-14, paragraph 3, 4, please provide the sample results.

10. Page 3-16, paragraph 5, this section should include the on-going Base-wide Ecological Investigation.

11. Page 5-2, top paragraph, please explain why samples were not analyzed for pesticides.

12. Appendix B, page B-29, it seems all the W0206AMD2 data were out of control. The high values of contaminant with "U" qualifiers indicate an abnormality with the analysis. Please explain why W02-06 high value of BNAs from 160 to 700 ppm contain "U" qualifiers.

14. Page 6-11, top paragraph, if the soil gas has identified TCE outside of the Site 1 landfill, it contradicts the first part of the sentence. Please clarify the contradiction.

15. Table 2.4-1, the detection limits can not be higher than the MCLs. The detection levels for vinyl chloride, chloroethane and benzene are much higher than those of California MCLs. The ensuing conclusions based on these numbers must thus be revised.

16. Table 5.1-2, the existence of high levels of metals seem to be deeper in the soil. North border LF-2 does not seem to be the boundary, since high levels of metals are found in the boring/well W0-2-06, 08 and 09. In addition, the W2-10 data show high level of contaminants. Please explain why you believe the Landfill boundary is not further to the north.

17. Figure 2.3-11, the Golf Course Landfill boundary can not be determined, because PCBs are found in the W2-2A. It is not well understood why the landfill boundary excludes the area. Furthermore, PCBs and metals are found in W2-10(F) indicating possible contamination beyond what seems to be the northern landfill boundary. Please explain why the pre 1968 burn pit is excluded from the landfill area.

18. Figure 2.3-10, the south-western part of the landfill seems to be further out because the W1-07 samples show high levels of nickel. Nickel has been consistently present at high levels at both landfills 1 and 2. However, nickel has been eliminated from further consideration. Nickel in W01-12 is 86.2 ppm. Please explain.

19. Table 7.2-4, please explain why it is expressed that 259 ppm of lead is within the background level. Please explain.

State of California

Department of Toxic Substances Control

Memorandum

To :

Cyrus Shabahari
Site Mitigation Division
Region 2
700 Heinz Avenue, Building F
Second Floor
Berkeley, California 94710

Date: December 22, 1992

From :

Office of the Science Advisor
400 P Street, Fourth Floor
P. O. Box 806
Sacramento, California 95812-0806
(916) 255-2058

Subject:

Moffett Field, OU 1, Mountain View, California
PCA Code: 14650, Site Code: 200068-40

Background

The Office of the Science Advisor (OSA) has previously reviewed portions of the Health Risk Assessments (HRA) for OU 2 and OU 4. The current HRA for Moffett Field OU 1 was received by OSA on November 6, 1992.

Documents Reviewed

The OSA received on November 6, 1992, "Draft Remedial Investigation Report, Operable Unit 1: Landfill sites 1 and 2, NAS Moffett Field, CA. Volume 1". This document was prepared by IT Corporation, Knoxville, Tennessee and submitted by The Hazardous Waste Remedial Actions Program, Martin Marietta Energy Systems, Oak Ridge, Tennessee, for the US Department of Energy.

General Comments

1. Since we have not reviewed the site characterization data, our review assumes that these data are accurate and complete, that acceptable analytical and sampling procedures were used and that Regional staff have determined that the data appropriately reflect the extent and magnitude of contamination at the site.

2. This document was reviewed for scientific content and minor grammatical or typographical errors that do not affect the interpretation have not been noted. They

should, however, be corrected in the final version of the document.

3. Every change that is made to this document as it is revised should be clearly identified. This may be done in several ways: for example; by submitting revised pages with the reason for the changes noted, by the use of strikeout and underline, by the use of shading and italics or by cover letter stating how each DTSC comment has been addressed. Any changes to the document that have not been made in response to specific DTSC comments should be identified and the reason for the change specified.

4. The quality of the sample data is questionable. The statements on page 7-10 that exclude tentatively identified compounds (TICs), even though they may account for over 50% of the mass of contaminants, need to be explained further. How often did this occur in the sampling/analysis process? Please expand on this section and assure that the data are representative of site contaminants.

5. The listing on pages 7-12 through 7-14 do not include sediments as a medium of concern. Has this been addressed elsewhere?

6. Soil ingestion should consider all soil to be derived from on-site sources unless there is experimental data that shows otherwise. The worker should be assumed to incidentally consume 480 mg/day of on-site soil.

7. PCBs should be assumed to be of equal toxicity of Aroclor-1260 according to IRIS (12-92). It is stated that Aroclor-1248 will be used in this risk assessment. Please supply a rationale for why EPA guidance is not being followed.

8. Toxicity due to exposure to lead should be evaluated using the Cal/EPA spread sheet, "lead spread". Copies of this may be obtained from OSA. Other methods are not acceptable.

9. The summary of the risks on pages 7-50 and 7-51 are apparently in error. How can the recreational user have a higher risk than the on-site resident? In looking at the tables (7.3 and following) it appears that the intake factors and soil concentration are lower for the on-site

resident. This must be corrected or explained in full.

Specific Comments

1. Page 2-7, Para. 3: It is stated that compounds found in soil at the Golf Course Landfill will be evaluated in the OU2 feasibility study (FS) if they pose a human health risk. Which compounds fall into this category? How will they be identified in the OU2 FS? I am concerned that these compounds may be "lost" in the preparation of the OU2 FS.

2. Page 4-1, Para. 1: The route of contaminated dust inhalation should be added to the text. It is apparently included in the calculations.

3. Page 4-5, last para.: "Essential nutrients" can not be a priori eliminated from the risk assessment. Some, such as manganese, may play a role in assessing site-related risk. Please re-evaluate the chemicals that were excluded as "essential nutrients" and modify the risk assessment as appropriate or expand the rationale for their exclusion.

4. Page 6-1, Para. 3: The potential routes of migration should include the movement of contaminated dust particles.

5. Page 6-2, Para. 3: What does it mean that, "Degradation processes are considered in the evaluation of chlorinated solvents"? Are the detected concentrations somehow adjusted? Please address this.

6. Page 6-4: The rationale for the detection of acetone is not consistent. For Site 1 it is stated that acetone is not detected during the summer and for Site 2 it is stated that acetone was only detected during the dry season.

7. Page 6-4 and 6-6: There are apparent conflicts in the descriptions of site contaminants. Paragraph one on page 6-4 describes acetone contamination in sediment samples from Site 1 and paragraph three states that acetone was not detected in sediment samples from Site 1. One page 6-6 it is stated in paragraph 4 that carbon disulfide was detected in sediment samples at Devils's Slough and the next paragraph states that it was not detected at Jagel Slough. Then it is stated that carbon disulfide contamination is only within fill material. Please proof

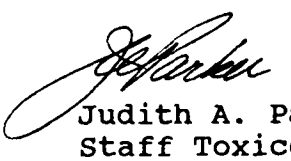
these statements and correct where necessary.

8. Page 6-8, Para. 3: It is stated that methylene chloride is a by product of the biotransformation of PCE and TCE. This is in conflict with the information provided on page 6-2. Please explain and supply references.

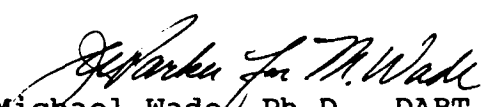
9. Page 6-12 and 6-13 The procedure for exclusion of chemicals does not appear to follow US EPA Risk Assessment Guidelines for Superfund (RAGS). Please re-examine this process. Benzoic acid was detected one time at 11,000 ppm (page 6-13) but this value is not discussed on page 6-14.

Conclusions

Although the text states that all the required parameters have been evaluated, there are several areas that need correction and or clarification. These must be addressed before the risk can be fully characterized.



Judith A. Parker, Ph.D., DABT
Staff Toxicologist
Human and Ecological Risk
Section



Reviewed by: Michael Wade, Ph.D., DABT
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