A [illegible] Record
N00296.001499
MOFFETT FIELD
SSIC NO. 5090.3

RESPONSE TO NAVY COMMENTS
FOR THE
NORTH BASE AREA HYDROGEOLOGIC INVESTIGATION - DRAFT REPORT
NAS, MOFFETT FIELD

Comments by Don Chuck
Dated: 6/26/92

SPECIFIC COMMENTS

Specific Comment No. 1: **Page 5, Paragraph 3, 3rd Sentence. Does the reference given in this sentence discuss conditions at Moffett Field specifically? If not, then it should be removed. Citing this reference implies a study was carried out to determine that the wetlands at Moffett provide feeding and nesting areas for fowl.**

JMM Response: The reference has been removed from this sentence.

Specific Comment No. 2: **Page 12, Paragraph 2, 4th Sentence. CPT locations 1 through 9 were intended to define a large paleo-stream channel. It is further stated that VOCs may be travelling at a higher velocity in this channel. This fact has not been effectively established in investigations done to date. More work is required to show that these "channels" are indeed preferential flow paths. The mere presence of "thick sands" does not guarantee high flow velocities.**

JMM Response: While it is true that the mere presence of "thick sands" does not guarantee high flow velocities, we think the potential is high for faster transport rates because of increased advective flow because of higher hydraulic conductivities and decreased surface area for sorption of organic compounds. We believe this sentence does not need to be changed.

Specific Comment No. 3: **Figures 11 and 12. The discharge pipes from the pumps are made of steel and not reinforced concrete. It should also be noted that the east line is a drainage ditch. The well cistern should be labeled. The area east of the cistern should be labeled as a transformer pad, with no water under it. Cross-sections of the lift station should be added to the report to help better visualize the facility.**

JMM Response: These 4 editorial changes/additions have been made to Figures 11 and 12. In addition, an east-west cross-section of Building 191 and the well cistern will be included in the final draft of this report.

Specific Comment No. 4: **Page 19, Paragraph 2, Last Sentence. Does the SWRP belong to the Navy or NASA? This should be verified.**

JMM Response: The property boundary is shown on Figure 6. This divides Navy property to the east from NASA property to the west.

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Specific Comment No. 5:

Page 19, Paragraph 3. What effect did the rains during the investigation have in determining the thickness of the unsaturated zone? Also, there is no Vol. II or Appendix B for this report.

JMM Response:

Seasonal rains were not considered in determining thickness of unsaturated zone in the NBA. The stated thickness was based on depth to water data collected on March 19, 1992. Historically, (1989 - present) depth to water in Site 8 wells (near NBA) has fluctuated between 5.45 and 9.46 feet below ground level. Approximately 4 inches of rain fell during this field project. To determine the effect these rains had on groundwater elevation the NBA measurements should have been taken before rains began and weekly thereafter until water levels began dropping. Field measurements indicate that the groundwater elevation rose about 2 feet in the Site 8 monitoring wells between November 27, 1991 and March 19, 1992.

Specific Comment No. 6:

Page 22, Paragraph 2, Table 1. How long were wells pumped to determine the pumping rates given in this paragraph and Table 1? Were any drawdowns measured in the wells? Did any of the wells dewater during pumping? Please add this discussion in the text.

JMM Response:

This paragraph has been changed to read as follows:

Pumping rates of individual monitoring wells were recorded during development and included in Table 1. These values represent averages of 30 to 60 minutes of pumping. During development a submersible pump was placed at the bottom of each well and an equilibrium pumping rate was achieved such that drawdown was maintained just above the pump. This allowed for maximum pumping. Rates varied between 0.3 and 4.1 gallons per minute (gpm) across the NBA. The maximum pumping rate was measured at WNB-14 and the minimum pumping rate was recorded at WNB-16. The average pumping rate was 2.8 gpm. Well WNB-10 and all of the 2-inch piezometers dewatered during development. The piezometers in the wetland (WNB-22 through WNB-27) recharged so slowly that a pumping rate could not be calculated.

Specific Comment No. 7:

Page 22, Paragraph 3, Last Sentence. This sentence needs clarification. As it now reads, it appears that new data will be added to a document that has already been finalized.

JMM Response:

This sentence has been modified;

"Permeable zones identified in the new CPT and lithologic data were found to agree in thickness and orientation with the zones presented in Appendix B of the NBA FIR (PRC and JMM, 1991e)."

Specific Comment No. 8:

Page 24, 7th Line from Top. Add the word "may" so that the sentence reads "measurements <u>may</u> indicate a connection to the bay." Actual hydraulic connection to the bay has not been completely substantiated.

JMM Response: The sentence has been modified as recommended.

Specific Comment No. 9: **Page 25, 1st Sentence at Top. Change the word "indicate" to "suggest."**

JMM Response: This sentence has been modified as recommended.

Specific Comment No. 10: **Page 38, Paragraph 1, Last Sentence. Change the word "indicate" to "suggest."**

JMM Response: This sentence has been modified as recommended.

Comments by Su Don Tu
Dated 6/26/92

SPECIFIC COMMENTS

Specific Comment No. 1: **Page 48, Figure 7. The contour line for 0 feet mean sea level in Figure 7 is different from the same contour line in the attached figure presented in previous meetings. This is caused by the confusion on the designation of A1 and A2 aquifers for wells in Site 8. What is the resolution?**

JMM Response: The earlier water level map has a spurious data point at Well 94A. This well is actually screened in the A2/B1 aquifer and should never have been included with A1-aquifer water level data.

Specific Comment No. 2: **Page 52, Figure 11. Explain how deep is the east line in Figure 11 in relative to mean sea level.**

JMM Response: The drainage ditch has not yet been surveyed so the elevation relative to mean sea level is unknown.

Specific Comment No. 3: **Page 53, Figure 12. The discharge concentrations (to Navy Channel) for 1,2-DCE and TCE should be ND(<1.0) and 2.8 μg/l, respectively. Delete the concentrations that appear on the top of word "Flow" in Figure 12.**

JMM Response: These editorial changes have been made to Figure 12.

Specific Comment No. 4: **Page 54, Figure 13. What is soil gas number on east side of the NASA high TCE well in Figure 13? How deep was the soil gas performed at this location?**

JMM Response: The first soil gas point located east of the NASA monitoring well is SG8-3 (Figure 5). A soil gas sample was collected at 5 feet bgl (Table 7).

Specific Comment No. 5:

Page 73, Table 6. This table indicates that the human health for freshwater objectives and marine objectives are 3.0 μg/l and 28 μg/l, respectively, from revised potential water quality objectives for San Francisco Bay (RWQCB 1/15/91). Please provide a copy of this document, if available.

JMM Response:

The RWQCB has verbally reported that these values are unpublished as of June 1992.