

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

SAN FRANCISCO BAY REGION

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May 20, 1983

File No. 1220.03 MRK (map)

Department of the Navy
Naval Air Station
Moffett Field, CA 94035
Attn: Keith Tayloe

Dear Ensign Tayloe:

This letter is to confirm the results of our meeting on 10 May 1983, to identify the objectives for the Phase II investigation and confirm the proposal for the Phase II work.

INTRODUCTION

At the meeting, the interested parties were identified. The contact persons will be Ensign Keith Tayloe of the U.S. Navy and Martin Kurtovich of the CRWQCB.

RESULTS OF PRELIMINARY INVESTIGATION

The Navy's consultants presented the results of their preliminary investigation (Phase I) which were transmitted to the Regional Board staff by letter on 4 May 1983. Four wells were drilled in the preliminary investigation, next to the two solvent tanks on the east side of hanger no. 3. Soil samples were taken five feet below grade and groundwater was encountered at depths of 8.5 to 10 feet. Results of the chemical analyses on the soil and water samples indicate that further investigation is necessary.

PHASE II INVESTIGATION

The primary objectives of the Phase II investigation are to (1) identify the source of contamination (2) identify the lateral and vertical extent of contamination, (3) determine the necessary actions to preclude further migration and (4) to determine the appropriate clean-up strategies.

The proposal for the Phase II investigation involves drilling nine more wells at certain locations east of hanger no. 3. Seven of these wells are to be drilled into the shallow "A" horizon and two wells will be drilled down into the lower "B" horizon. Based on your consultants presentation, it is our

8

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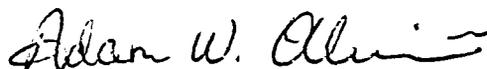
understanding that the method to be used for drilling into the "B" horizon will be done similar to method 2 on the attached "Lower Aquifer Drilling Protocol". Further, soil and water samples are to be collected from each boring and tested similar to the samples in the preliminary investigation, using USEPA method 624. Also mentioned for the Phase II work was an inventory of all wells at Moffett Air Station. Finally, it is our understanding that additional work will be initiated by the Navy in an effort to identify the source of contamination. Therefore, based on your May 4, 1983 proposal and the results of our meeting, your Phase II proposal, as presented at the May 10 meeting is acceptable. However, since certain additions were made to your May 4, 1983 Phase II proposal, I request that you send us an updated version consistent with the May 10 presentation. This written submittal is for documentation of the proposed changes. It is not necessary to delay implementation for this submittal.

INFORMATION TRANSFER

All information transmitted to the Regional Board should also be transmitted to those persons on the attached mailing list.

We appreciate your assistance in this matter. Please call Martin Kurtovich at (415) 464-1041 if you have any questions.

Sincerely,



ADAM W. OLIVIERI, Dr. PH, P.E.
Senior WRCE

Attachment

- mailing list
- drilling protocol

MAILING LIST

Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118
Attn: Tom Iwamura

Dept. of Health Services
Hazardous Waste Management Branch
2151 Berkeley Way
Berkeley, CA 94704
Attn: John Blasco

Dept. of Health Services
Sanitary Engineering Branch
2151 Berkeley Way
Berkeley, CA 94704
Attn: Cliff Bowen

State Water Resources Control Board
1416 9th Street
Sacramento, CA 95814
Attn: Bob Ford

City of Sunnyvale
Dept. of Public Works - WPCP
P.O. Box 60607
Sunnyvale, CA 94088
Attn: Dan Firth

Attachment 2

Deeper Aquifer Drilling Protocol

- 1) The first method uses a large diameter (12-inch O.D.) hollow stem auger. The auger is advanced from the surface into clay immediately underlying the first (near surface) aquifer. The boring is then continued through this clay layer into the next aquifer by rotary drilling equipment inserted through the center opening of the augers (6-1/4 I.D.). After placement of well casing and gravel pack, a grout seal is placed in the clay interval prior to removal of the augers.
- 2) The second method uses a double casing installation and allows for a more complete gravel pack. The general construction steps for double cased wells include:
 - 1) drilling a 14-inch diameter boring into clay underlying the uppermost aquifer, 2) installing a 8-inch steel casing into the clay and sealing the annular space between the casing and boring wall with cement grout, 3) removing all drilling fluids, circulation of clean water in the casing and removal and discharge of all fluids to drums or tank truck for disposal at an appropriate disposal site, 4) cleaning all drilling and sampling equipment with steam, 5) drilling an 8 inch hole to the base of the next lowest aquifer using a mud rotary or a solid or hollow stem auger, and 6) installing a 4 inch diameter steel casing the total depth of the boring with the casing screened throughout the thickness of the lower aquifer, and backfilling the annular space between the casing and the boring wall with pea gravel in the water bearing zones of the lower aquifer with the remainder grouted with concrete/bentonite.
- 3) The third method uses an air/rotary drill with a top drive and casing hammer that will bore a hole and install a 10-inch diameter steel casing simultaneously into the clay underlying the uppermost aquifer. A hollow-stem auger or mud rotary can then be used to continue the bore hole through the clay layer into the next aquifer.