

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

REGION 2

HEINZ AVE., SUITE 200
EMERYVILLE, CA 94710-2737

(510) 540-3809

June 11, 1993



Mr. Gary Munekawa
Code 1811
Naval Facilities Engineering Command
Western Division
900 Commodore Drive
San Bruno, California 94066-2402

Dear Mr. Munekawa:

**DRAFT FIELD SAMPLING PLAN FOR FOLLOW-ON WORK REMEDIAL
INVESTIGATION/FEASIBILITY STUDY PHASES 5 AND 6 - LANDFILL
INVESTIGATION, NAVAL AIR STATION, ALAMEDA**

The Department of Toxic Substances Control (DTSC) and the San Francisco Bay Regional Water Quality Control Board (RWQCB) has reviewed the Draft Field Sampling Plan for Follow-On Work Remedial Investigation/Feasibility (RI/FS) Study Phases 5 and 6. Below are the comments of the DTSC. The comments of the RWQCB are enclosed in this letter. The RWQCB comments ask for monitoring wells and soil borings within both of the landfills. The DTSC has reservations concerning this request; however, our reservations should not be interpreted as disagreement. The DTSC request that a technical discussion on this issue be an agenda item for the June 30 Monthly Progress Review Meeting. After this issue is resolved our comments shall be addressed and incorporated in the draft final Field Sampling Plan for Follow-On Work RI/FS Study Phases 5 and 6 - Landfill Investigation.

Comments of the DTSC

1. Page 3-7, Section 3.6.1, Soils

The analysis of soils in the burn area should include polycyclic aromatic hydrocarbons (PAHs) which are by-products of incomplete combustion.

2. Page 3-7, Section 3.6.1, Soils

The initial investigation of Site 1 was also conducted under Phase 1 of the Remedial Investigation (RI). The Phase 1 investigation is concluded and information collected during that phase will be incorporated into Phases 5 and 6. On March 4, 1993, the DTSC provided

961



comments on the Phase 1 and 2A Data Summary Report. The Data Summary Report included recommendations for future work at Sites 1 and 2. This future work is to be accomplished through the continuation of Phases 5 and 6. Relevant comments on the Phases 1 and 2A Data Summary Report must be incorporated into the Phases 5 and 6 Follow-On Field Sampling Plan.

Comment numbers 13 and 14 of the March 4, 1993 comment letter addresses soil sampling at Site 1. These comments are repeated and should be addressed in the Phases 5 and 6 Field Sampling Plan.

Comment 13.

"Because of the lack of fully validated surface samples, confirmatory sampling is required for surface soils at Site 1. Ten random samples must be collected at locations where there was no detection of semivolatile organic compounds, pesticides, PCB compounds, TRPH, and total organic carbon."

Comment 14.

"Surface soil contamination is concentrated in the triangular area west of Runway 13-31. Another 200 foot grid sampling event should occur within this area. Sampling locations should be between the points already sampled by Canonie. This would provide sampling locations every 100 feet. Conducting surface sampling in this area will augment the data already gathered in the area and provide a fully validated data set. Soil samples collected in or near the burn area must be analyzed for dioxens."

3. Page 3-7, Section 3.6.1, Soils and Figure 3-2.

A five point sampling grid will be employed to explore for the presence of dioxin-furan in the burn area of Site 1. According to Figure 3-2, three of these five sampling points are not within the burn area. Please explain the selection of these sampling points, including why all the samples will not be taken from the burn area. Soil sampling should occur at the burn area and in areas where contamination may have been transported.

4. Page 3-7, Section 3.6.1, Soils and Figure 3-2.

Are the twelve soil borings proposed for Site 1 shown on Figure 3-2? What are they identified as?

5. Page 3-7, Section 3.6.1, Soils

Please support the decision not to analyze surface samples for dioxin-furan a second time. Will soil

samples from the 2.5 and 5 foot intervals be analyzed for dioxin-furan?

6. Page 3-8, Section 3.6.2, Cone Penetrometer Tests

In order to better comprehend the extent of the bay mud under Site 1, CPT numbers 1-1, 1-2, 1-4 and 1-5 should be taken closer to the eastern side of the 1943-1946 landfill.

7. Page 3-8, Section 3.6.3, Groundwater

A third well cluster of three wells should be added to the two well clusters to be installed on the east side of the disposal cells between M-030 and M-031. This third well cluster should be made up of "A", "E", and "B".

8. Page 4-6, Section 4.4.3.2, Surface Water and Groundwater (last paragraph)

Is there evidence which indicates that acetone, methylene chloride, and bis(2-ethylhexy)phthalate are laboratory contaminants or sampling artifacts?

9. Page 4-8, Section 4.6.2, Cone Penetrometer Tests

Please clarify what is meant by "in the area between the landfill operations on the south side of Site 2."

10. Page 4-8, Section 4.6.2, Cone Penetrometer Tests and Figure 4-1.

The text states that four CPT locations with an approximate spacing of 600 feet between test points will be driven at Site 2. Figure 4-1 shows CPT locations to have a spacing greater than 600 feet. Understanding the extent of the bay mud aquitard under the West Beach Landfill is extremely important. More CPT location should be included at Site 2. With CPT locations between WB-3 and M-014B, M-014B and M-013C, and M-013C and M-012B.

11. Page 4-8, Section 4.6.3, Groundwater

The southern and eastern boundaries of Site 2 do not have any "E", "B", or "C" wells; therefore, the bottom of the upper water bearing zone and the second water bearing zone have not been sampled in these areas. The HydroPunch II should be enlisted to collect samples from the upper and lower portions of the first water-bearing zone and from the base of the second water-

Mr. Gary Munekawa
June 11, 1993
Page 4

bearing zone in these areas. The Navy should be prepared to install "E", "B", and "C" type groundwater monitoring wells if the Hydropunch samples detect contamination.

12. Page 4-8, Section 4.6.3, Groundwater

Even if contamination is not detected in the HydroPunch II samples, the Navy should install "E", "B", and "C" wells at M-016. These additional wells will allow for continued monitoring of the lower portions of the first and second water-bearing zones.

13. Page 4-8, Section 4.6.3, Groundwater

The greatest concentration of contaminants in the groundwater at Site 2 was detected in monitoring wells M-024-A and M-024-E. In order to determine the quality of groundwater in the second water bearing zone beneath M-024 an additional "C" monitoring well should be added to the M-024 well nest.

14. Page 5-3, Section 5.4.1, Soils

Is there evidence which indicates that acetone and bis(2-ethylhexy)phthalate are laboratory contaminants or sampling artifacts?

15. Page 5-5, Section 5.5, Sampling Objectives (forth bullet)

Will the new soil samples be analyzed for TPH purgeable and extractable?

If you have any questions on these comments or require further assistance, please call me at (510) 540-3809.

Sincerely,



Thomas P. Lanphar
Project Manager
Site Mitigation Branch

Enclosure

cc: See next page

Mr. Gary Munekawa
June 11, 1993
Page 5

cc: Mr. James Nusrala
SF Bay Regional Water
Quality Control Board
2101 Webster street, Suite 500
Oakland, California 94612

Mr. Randy Cate
Alameda Naval Air Station
Building 114, Code 52
Alameda, California 94501

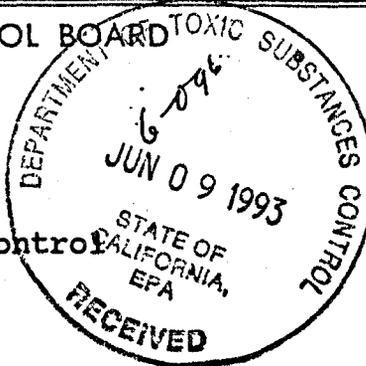
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

SAN FRANCISCO BAY REGION

217 WASHINGTON STREET, SUITE 500

OAKLAND, CA 94612

(510) 286-1255

June 7, 1993
File No. 2199.9285(JBN)

Tom Lanphar
Department of Toxic Substances Control
700 Heinz Avenue, Suite 200
Berkeley, CA 94710

Dear Mr. Lanphar,

The following is the San Francisco Bay Regional Water Quality Control Board staff's review of the Draft Field Sampling Plan for Follow-on Work on the Remedial Investigation/Feasibility Study for Phases 5 and 6 (Landfill Investigations) at Alameda Naval Air Station.

General Comments:

1. More soil borings and monitoring wells are needed in the Site 1 disposal area and West Beach Landfill. This is necessary to classify the waste and volume in the landfills as well as to determine the quality of the groundwater which is in direct contact with the waste. This information will all be taken into account in the feasibility study for selecting appropriate closure methods for the landfills.

2. Please explain why so many Cone Penetrometer Tests (CPTs) were taken in the Runway Area?

3. More figures are recommended to show the sample locations and corresponding contamination for all detected chemicals for both the first and second water bearing zone in the final RI/FS report,

4. A radiologic survey needs to be included in the chemical analysis for the monitoring wells and soil borings which are part of the follow-on-field work sampling plan.

Specific Comments:

1. (Section 2.2.2) Please explain what chemical constituents will be detected in each of the four groundwater zones sampled: A, B, C, and E.

2. (Section 2.4) Is the report trying to use the fact that there are differences in how the two water bearing zones respond to tidal fluctuations as proof of no hydraulic connection between the two? If so, that is a very indirect way of making a conclusion that the fill and native soil aquifers are not in communication with each other. A better way would be to look at the lithology, by drilling borings or CPT holes in the area of concern, or by

performing pumping tests.

3. (Figure 2-4) Figure 2-4 estimates the geology in the West Beach Landfill. There is no proof that the Holocene Bay Mud Unit exists at a 15-20 foot thickness throughout the site.

4. (Figure 2-6) Figure 2-6 shows the A,E,B, and C wells sampling the top and bottom of the artificial fill and native soil aquifers. No well logs or rationale were provided for us to evaluate if such monitoring is adequate to determine preferential pathways. Each of the five zones in Figure 6 needs to be properly monitored. The two assumed aquitards, the Holocene Bay Mud Unit and the Late Pleistocene Estuarine Deposits, especially require extensive soil borings or CPT's to see if they are in fact, low permeable zones preventing vertical migration of contaminants. Borings WB-2 and M-013C in Figure 2-4 show that the Bay Mud Unit consists of SM, a sandy material, which is fairly permeable. Borings M-007C and DA-2 show the same phenomenon.

5. (Figure 3-2) Two more well clusters are needed directly east and north of the 1947 disposal "cell" so we can better define the groundwater contamination pathways. Also, the well clusters should sample the B zone, or the top of the Late Pleistocene Estuarine Deposits. This way the wells could detect chemicals which would float to the top of the second water bearing zone.

6. (Figure 3-2) Additional characterization of the waste contained in the 1947 and 1949 disposal "cells" is necessary. The main goal of an RI/FS for a landfill site such as the Site 1 disposal area is to characterize the site in a way that would suggest possible remedial options. Soil borings in the landfill are necessary to classify and determine the thickness of the refuse and the lithology underneath them. Underlying groundwater should also be monitored to define the vertical extent of contamination. Information on leachate quality and quantity is necessary to estimate how long it will take to dewater the refuse or to design a pump and treat system for the leachate, if necessary.

7. (Table 3-1) Please identify the sample depths, if possible, for the water samples. Also, why are TPH and Pesticides/PCB's not proposed to be analyzed in all of the groundwater samples.

8. (Table 3-1) Why are the deep wells analyzed only on a semi-annual basis when there are so few to begin with?

9. (Section 4.4.3.2, page 4-7) A detection limit of 200 ppb was used in the SWAT report for sampling TPH in the groundwater. In future analysis Regional Board staff would like to see a detection limit of around 10 ppb. This is the Practical Quantification Reporting Limit given in the Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites. (Ca. Regional Water Quality Control

Board San Francisco Bay Region, August 1990, page 19)

10. (Section 4.4.3.2, page 4-7) Please explain what existing information indicates that groundwater from the first water bearing zone is not migrating downward to the second water bearing zone near wells 22 to 24.

11. Why are groundwater samples in the B and C zone only going to be analyzed twice a year, instead of four times a year, when there are so few well locations to begin with.

12. (Section 4.6.2) Four CPT locations on the perimeter of the West Beach Landfill are not enough to access whether or not the first and second water-bearing zones are hydraulically connected beneath the landfill. More CPT holes are needed in the landfill itself.

13. (Section 4.6.2) If Cone Penetrometer Tests are to tell whether or not the first and second water-bearing are hydraulically connected they need to be installed in the landfill itself.

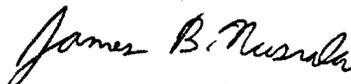
14. (Section 4.6.3) TPH needs to be analyzed in all monitoring wells. It was detected in wells 21A, 22A, 23A, 24A, 22E, and 24E in the September 1992 SWAT report.

15. (Figure 4-2) Again, I want to see more soil borings and monitoring wells sampling the landfill itself. The landfill must be characterized before any remedial options can be suggested. For instance, if a cover is to be used one would need to know the thickness of the refuse so as to design for compression of the landfill accordingly. Also, if the leachate or contaminated groundwater is to be treated, one would need to know what chemicals are contained in the leachate and groundwater, so as to include all necessary methods in the treatment plant.

16. (Figure 2) There needs to be some more deep aquifer wells on the south side of West Beach Landfill. There is no knowledge of the contamination in the native soil water bearing zone from wells 15 through 18. It is important to characterize the contamination here as it borders San Francisco Bay.

If you have any questions on the above comments, please call me at (510) 286-0301.

Sincerely,



James Nusrala
Remedial Project Manager