



WILLIE LEWIS BROWN, JR.

OFFICE OF THE MAYOR
SAN FRANCISCO

TREASURE ISLAND PROJECT
410 AVENUE OF THE PALMS
BUILDING 1, 2ND FLOOR
TREASURE ISLAND
SAN FRANCISCO, CA 94130
(415) 274-0660
FAX (415) 274-0299

July 28, 1998

Commanding Officer
Engineering Field Activity, West
Naval Facilities Engineering Command
900 Commodore Drive
San Bruno, CA 94066-2402
Attention: Mr. Ernesto Galang

Dear Mr. Galang,

Thank you for the opportunity to review the Navy's **Additional Characterization of Dioxins at Site 12-Old Bunker Area Field Sampling Plan Addendum (Draft) Dated July 13, 1998** and the **Review of Additional Characterization of Total Petroleum Hydrocarbons at Site 12-Old Bunker Area Field Sampling Plan Addendum (Draft) Dated July 13, 1998** reports. The Mayor's Office at Treasure Island's contractor, Geomatrix, has provided the attached comments.

Sincerely,

Martha R. Walters

cc:

- David Rist (DTSC)
 - David Leland (RWQCB)
 - James Ricks, Jr. (EPA)
 - Jim Sullivan (BEC)
 - Richard Knapp (TEAM)
 - Richard Hansen
 - Paul Hehn
 - Pat Nelson
 - Nathan Brennan
 - John Allman
 - Dale Smith
 - ARC Ecology
 - Admin Record (3 copies)
- } Community
R.A.B

23 July 1998
Project 4850

Ms. Annemarie Conroy, Director
Mayor's Office
Treasure Island Project
410 Palm Avenue
Building 1, Room 229
San Francisco, California 94130

Subject: Review of Additional Characterization of Dioxins at Site 12 - Old Bunker Area
Field Sampling Plan Addendum (Draft) Dated 13 July 1998

Dear Ms. Conroy:

This letter presents the results of our review of the subject document, performed in accordance with our subcontract agreement with MEC Consultants (MEC) dated 1 July 1998. MEC was retained by the City of San Francisco (the City) to review several environmental documents; at the request of Ms. Martha Walters of the San Francisco Redevelopment Agency, MEC retained Geomatrix Consultants, Inc. to perform the review of the subject document.

BACKGROUND

The 13 July 1998 draft Additional Characterization of Dioxins at Site 12 – Old Bunker Area Field Sampling Plan Addendum (referred to herein as the “dioxin Sampling Plan”) was prepared by Tetra Tech EM Inc. (TTEMI) on behalf of the U. S. Navy. The dioxin Sampling Plan presents proposed methods and procedures for conducting additional soil and groundwater sampling and chemical analysis to better assess the distribution and concentrations of dioxin in soil at the Site 12 Operable Unit (“Site 12”) at the Naval Station Treasure Island (NAVSTA TI). Specifically, the primary objectives of the proposed work are to: 1) characterize the vertical distribution of dioxins in soil where it has previously been detected; 2) characterize the lateral extent of dioxins in soil at the rubbish disposal area near Westside Drive; and 3) determine if dioxins are present in soils at debris disposal areas and a suspected burn pit identified on historical aerial photographs.

To achieve these objectives, TTEMI proposes to install 15 borings using Geoprobe equipment and collect 1 to 2 soil samples from each boring. A total of 27 soil samples will be collected and submitted for chemical analysis for dioxins using EPA Method 8290.

Ms. Annemarie Conroy, Director
23 July 1998
Page 2

RESULTS OF REVIEW

Protocols for soil sample collection, sample handling, and quality assurance/quality control (QA/QC) are consistent with state and local guidelines. In general, the proposed sampling locations appear to be appropriate and consistent with discussions held in previous meetings between representatives of the City, the U.S. Navy, and regulatory agencies overseeing the work. We have a few specific comments and recommendations:

- Page 2: The first sentence of the first full paragraph is confusing: it is not clear what the presence of total petroleum hydrocarbons in soil and groundwater throughout Site 12 has to do with dioxin. It is recommended that this sentence be revised to read "Results of the RI and additional sampling at Site 12 has indicated the presence of measurable concentrations of dioxins in surface or near surface soil at several locations".
- Page 2: Discussions with Navy personnel in previous meetings are not consistent with the third sentence of the first full paragraph on page 2 ("Shallow soil samples were not collected and analyzed for dioxins because historical information indicated that the top 2 feet of soil had been imported and filled after debris disposal activities"). It was our understanding that the fill used prior to constructing housing in this area of NAVSTA TI came from other parts of Site 12 (e.g., cut from one area of Site 12 was used to fill other areas) and was not "imported". Additionally, this sentence is confusing because recent sampling has indicated the presence of dioxin in the upper 2 feet of soil in Site 12. If new historical information has been located to support this statement on page 2, it is recommended that this information be referenced. Otherwise, we recommend that this sentence be deleted because it is confusing to the reader and makes suspect all areas with "imported" fill at the site.
- Only one boring is being proposed to define the lateral extent of dioxins in soil near location 12-HP-18, located in the southwestern part of Site 12, near Building 307. This will not be sufficient to assess the lateral extent of dioxins near location 12-HP-18. We recommend that two additional borings be installed: one approximately 50 feet southeast and a second approximately 75 feet northeast. For consistency with the dioxin sampling approach with the other areas of Site 12, two samples per boring should be collected for dioxin analysis.

Ms. Annemarie Conroy, Director

23 July 1998

Page 3

- It is not clear why samples are being targeted for collection in the capillary zone. Dioxins are relatively immobile in the subsurface and should not be affected by the presence of the capillary zone. Additionally, the height and thickness of the capillary fringe likely varies significantly across Site 12 and thus the sample depth of the second sample collected from each boring could also vary widely. Data evaluation would likely be easier if a discrete sampling depth were selected (e.g., 3.5 feet) and soil samples at all proposed locations collected at this depth. It appears that the topography of Site 12 is relatively flat; therefore, the discrete depth would likely represent a similar elevation or horizon across the site.

We appreciate the opportunity to assist you on this project. Please call me with any questions at (415) 434-9400.

Sincerely,

GEOMATRIX CONSULTANTS, INC.



Amanda Spencer, R.G., P.E.
Principal Hydrogeologist

AS:ldu
I:\Doc_Safe\4850diox.doc

cc: Martha Walters, San Francisco Redevelopment Agency

23 July 1998
Project 4850

Ms. Annemarie Conroy, Director
Mayor's Office
Treasure Island Project
410 Palm Avenue
Building 1, Room 229
San Francisco, California 94130

Subject: Review of Additional Characterization of Total Petroleum Hydrocarbons at Site
12 - Old Bunker Area Field Sampling Plan Addendum (Draft) Dated 13 July
1998

Dear Ms. Conroy:

This letter presents the results of our review of the subject document, performed in accordance with our subcontract agreement with MEC Consultants (MEC) dated 1 July 1998. MEC was retained by the City of San Francisco (the City) to review several environmental documents; at the request of Ms. Martha Walters of the San Francisco Redevelopment Agency, MEC retained Geomatrix Consultants, Inc. to perform the review of the subject document.

BACKGROUND

The 13 July 1998 draft Additional Characterization of Total Petroleum Hydrocarbons at Site 12 - Old Bunker Area Field Sampling Plan Addendum (referred to herein as the "TPH Sampling Plan") was prepared by Tetra Tech EM Inc. (TTEMI) on behalf of the U. S. Navy. The TPH Sampling Plan presents proposed methods and procedures for conducting additional soil and groundwater sampling and chemical analysis to better assess the distribution and concentrations of medium-range petroleum hydrocarbons in Site 12 Operable Unit ("Site 12") at the Naval Station Treasure Island (NAVSTA TI). Specifically, the primary objectives of the proposed work are to: 1) further delineate the extent of groundwater containing TPH at concentrations exceeding 1.4 milligrams per liter (mg/l), the TPH screening level for groundwater at NAVSTA TI for protection of aquatic organisms proposed by the Regional Water Quality Control Board - San Francisco Bay Region (RWQCB); and 2) determine TPH concentrations in soils that may be a continuing source of groundwater contamination.

Ms. Conroy, Director
23 July 1998
Page 2

To achieve these objectives, TTEMI proposes to:

- install 24 borings using Geoprobe equipment, and collect 3 soil samples and one grab groundwater sample from each boring for chemical analysis for total petroleum hydrocarbons in the gasoline hydrocarbon range ("TPHg"), total petroleum hydrocarbons in the diesel hydrocarbon range ("TPHd"), and benzene, toluene, ethylbenzene, and xylenes (BTEX); groundwater samples from 3 of the borings will be analyzed for methyl-tertiary-butyl ether (MtBE);
- collect 10 soil samples from previous boring locations in which soil samples indicated the presence of elevated concentrations of TPH for leachability testing; and
- install, develop, and sample up to 6 additional monitoring wells.

RESULTS OF REVIEW

The TPH Sampling Plan was well-written and comprehensive. Protocols for soil sample collection, sample handling, quality assurance/quality control (QAQC), and monitoring well installation, development and sampling are consistent with state and local guidelines. In general, the proposed sampling locations and chemical analyses appear to be appropriate to achieve the objectives stated in the TPH Sampling Plan. However, we have a few specific comments and recommendations:

- if access is possible, additional Geoprobe borings should be placed between locations 12-HP-067, 12-HP-124, and 12-HP-093 and San Francisco Bay (e.g., one additional boring between each proposed location and the Bay); Attachment A contains copies of Figures 2 and 3 of the TPH Sampling Plan, which illustrates the locations of 12-HP-067, 12-HP-124, and 12-HP-093.
- Section 4.1.3 (page 5) states that soil samples will be screened with a Flame Ionization Detector (FID) to assess for the possible presence of methane in the debris area. We would recommend that the top of the boreholes also be monitored periodically for the presence of methane using the FID.
- Section 4.1.6 (page 6) presents the laboratory analyses to be requested for soil and grab groundwater samples collected via the Geoprobe. Grab groundwater samples collected using a Geoprobe are often turbid. Therefore, we recommend that the samples to be analyzed for TPH-extractables be filtered with a glass filter prior to analysis.

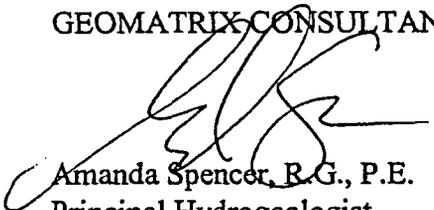
Ms. Conroy, Director
23 July 1998
Page 3

- It is unclear in Sections 4.1.7 (Leachate Testing; page 6) and 4.2.3 (Monitoring Well Sampling; page 8) whether the sample extracts from the soil, elute, or monitoring wells will be treated with silica gel cleanup prior to analysis for TPH-extractables. Table 2 suggests that all samples to be analyzed for TPH-extractables will be treated with silica gel prior to analysis; however, this is not presented in the text. We recommend that Sections 4.1.7 and 4.2.3 of the TPH Sampling Plan be modified to state that silica gel treatment will be applied to all sample extracts prior to analysis for TPH-extractables.

We appreciate the opportunity to assist you on this project. Please call me with any questions at (415) 434-9400.

Sincerely,

GEOMATRIX CONSULTANTS, INC.



Amanda Spencer, R.G., P.E.
Principal Hydrogeologist

AS:ldu
I:\Doc_Safe\4850-tpb.doc

cc: Martha Walters, San Francisco Redevelopment Agency

Attachment