N00247.000235
NTC SAN DIEGO
SSIC #5090.3

DEPARTMENT OF THE NAVY
SOUTHWEST DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
ENVIRONMENTAL DIVISION
1220 PACIFIC HIGHWAY, RM 18
SAN DIEGO, CALIFORNIA 92132-5181

5090
Ser 1832.TM/ 221
January 19, 1996

Ms. Alice Gimeno
Department of Toxic Substances Control
Office of Military Affairs
245 W. Broadway, Suite 425
Long Beach, CA 90802-4444

Dear Ms. Gimeno:

The purpose of this letter is to address your comments, as well as comments from other involved regulatory agencies, on the "Draft Work Plan for Sediment Characterization of the Boat Channel" at Naval Training Center, San Diego, California.

In addition to requesting your acceptance of our comment resolution, enclosure (1), we also request your concurrance of a few minor proposed changes to the Draft Work Plan which are described within enclosure (2).

Since we would like to begin field work on February 5, 1996, your prompt written acceptance would be appreciated.

If you have any questions, please contact the undersigned at (619) 532-3808.

Sincerely,

Thomas L. Macchiarella

THOMAS L. MACCHIARELLA
Remedial Project Manager
By direction of
the Commanding Officer

Encl:
(1) Response to Agency Comments
(2) Bechtel letter describing proposed Draft Work Plan changes dated January 19, 1996

5090
Ser 1832.TM/221
January 19, 1996

Copy to:
Mr. Clarence A. Callahan, PhD, Biologist
Ms. Claire Trombadore
U.S. Environmental Protection Agency
Region IX
75 Hawthorne Street
San Francisco, Ca
94105

Mr. Jim Polisini, PhD
Office of Scientific Affairs
CAL - Environmental Protection Agency
310 Capitol Mall, 2nd Floor
Sacramento, CA 95814

Mr. Corey Walsh
California Regional Water Quality Control Board
San Diego Region
9771 Clairemont Mesa Blvd., Ste B
San Diego, CA 92124-1331

09 January 1996

RESPONSE TO AGENCY COMMENTS FROM TECHNICAL REVIEW OF
CTO-0092 DRAFT WORK PLAN FOR SEDIMENT CHARACTERIZATION OF THE BOAT CHANNEL

Written on 20 November 1995
From: Alvaro Gutierrez, Department of Toxic Substances Control, Base Closure Team Member, Region 4 Base Closure Unit, Office of Military Facilities
To: Phillip Dyck, Naval Facilities Engineering Command Southwest Division, Base Environmental Coordinate

Received 30 November 1995

GENERAL COMMENTS

COMMENT 1: Overall the work plan is well written and accurately incorporates discussions between U.S. Navy contract and regulatory agencies.

RESPONSE 1: Comment noted.

COMMENT 2: Further discussions should identify the exact sampling locations and sampling protocols.

RESPONSE 2: Comment noted.

SPECIFIC COMMENTS

COMMENT 1: Is it possible to determine which drain line may have received the dental amalgam prior to 1970 and whether the mercury-containing dental amalgam (Table 2-1) was transferred to the Boat Channel via combined sewer/storm drains? If this can be determined, it may warrant placement of a sediment sampling location at that storm water outfall. A similar assessment should be made for the transformer fluid drained into storm drains and the photo processing waste water sewered without treatment until 1980 (Table 2-1). Should the evaluation of storm drain transport from these sources indicate that discharge could have occurred through multiple storm drains, sediment sampling at storm drain outfalls should be included in the storm drain evaluation to be performed in the fall/winter of 1995 so that this investigation can concentrate on the entire boat channel.

RESPONSE 1: The design of this sediment sampling program is not intended to pinpoint areas of suspected contamination associated with particular storm drains. Rather, it intended to generally characterize areas of the Boat Channel, which after further evaluation, may require additional investigation. The approach presented in the Work Plan has a degree of randomness associated with it that will allow statistical analyses to be performed. Specific placement of sample locations (judgmental sampling) would not allow for comparisons. We will, however, attempt to determine which drain lines are associated with the activities as outlined in this comment. The information gathered will be included in the final report.

The storm drain evaluation is being conducted under a National Pollutant Discharge Elimination System (NPDES) permit issued by the Regional Water Quality Control Board - San Diego Region. The field implementation of the NPDES permit and interpretation of the results is handled by a separate contractor. The information presented in this comment will be passed on to the appropriate parties for their consideration.

ENCLOSURE (1)

COMMENT 2: DTSC supports evaluation of potential storm water transport to the Boat Channel during the fall/winter of 1995 (Section 2.2, page 2-10).	**RESPONSE 2:** Comment noted.
COMMENT 3: The exposure period in toxicity testing using *Neanthes arenaceodentata* should be lengthened to allow measurement of growth as an additional endpoint (Section 3.4.2, page 3-11).	**RESPONSE 3:** The exposure period of the *Neanthes arenaceodentata* toxicity test will be lengthened to include measurement of growth as an endpoint.
COMMENT 4: The discussion of toxicity testing (Section 3.4.2, page 3-11) states that toxicity tests will be performed on all 18 surface sediment samples while the section on sampling indicates that nine samples will be collected at random and a tenth sample will be collected near the former firefighter training area (Section 3.3.1, page 3-7). Please amend the text so that these two sections are in agreement.	**RESPONSE 4:** The text in Section 3.4.2, page 3-11 has been modified to agree with Section 3.3.1, page 3-7. Toxicity tests will be performed on a total of ten surface samples.
COMMENT 5: Cultured organisms should be used in the aquatic toxicity test rather than field collected organisms where possible (Section 3.4.2, page 3-11) to reduce variability. The control sediment for the culture organisms should be the culture sediment.	**RESPONSE 5:** Laboratory cultured organisms will be used in the toxicity tests when possible. This information will be passed on to the subcontractor that will be conducting the actual testing.
COMMENT 6: The negative control criteria are specified as 10 percent or 20 percent depending on the test organism in the text (Section 3.4.2, page 3-11) while a table presents the performance criteria as 10 percent or 30 percent (Table 3-2, page 3-12). Please amend the table to agree with the negative control criteria listed in the text of 10 percent or 20 percent.	**RESPONSE 6:** The text in Section 3.4.2, page 3-11 has been amended to be in agreement with Table 3-2, page 3-12. The negative control criteria should be 10 percent for the amphipod and polychaete and 30 percent for the echinoderm larvae.
COMMENT 7: Differences in growth rate should be added as an additional endpoint for the polychaete worm tests (Table 3-2, page 3-12). This endpoint is regularly measured in polychaete toxicity tests.	**RESPONSE 7:** The exposure period of the *Neanthes arenaceodentata* toxicity test will be lengthened to include measurement of growth as an endpoint.
COMMENT 8: A footnote to the table (Table 3-2, page 3-12) correctly indicates that either a relative difference in response or a statistically significant difference may be interpreted as biologically significant. The text incorrectly states in the facing page that both criteria must be satisfied to indicate biological significance (Section 3.4.2, page 3-13). Please amend the text to agree with the criteria in the footnote.	**RESPONSE 8:** The text in Section 3.4.2, page 3-13 has been changed to agree with Table 3-2, page 3-12. It now states, "An exceedance or plus value would be recorded if the relative mean difference in mortality between the study site test and bay sediment test was greater than 20 percent (or as appropriate for a given test) or the difference was statistically significant at the $p \leq 0.05$ level based on the Student's t-test."

COMMENT 9: The description of sediment core collection (Section 4.3, page 4-1) should include the fact that Teflon® liners will be used as stated in the Field Sampling and Analysis Plan (Section 4.3.2, page AA-4).	**RESPONSE 9:** Section 4.3, page 4-1 has been modified to include the use of Teflon® liners during sediment core collection.
COMMENT 10: The core should be photographed with a scale included in the frame after extrusion of the core (Section 4.3, page 4-1).	**RESPONSE 10:** Section 4.3, page 4-1 has been modified to include the photographing of each core after extrusion, and each frame will include a scale.
COMMENT 11: The standard exposure period for amphipod bioassays is 10 days rather than the 4 day exposure period proposed (Section 5.2, page 5-1). The standard exposure period for polychaete bioassays where growth rate is a measured endpoint is 21 days. It is doubtful that shorter exposure periods will detect any contaminant-related effects except in highly-contaminated sediment.	**RESPONSE 11:** Comment noted. Section 5.2, page 5-1 had been modified to show that the amphipod toxicity test runs for a duration of 10 days rather than four days. One of the standard exposure periods for the polychaete bioassay is 20 days, as cited in the proposed Standard Methods Handbook (APHA 1995) and referenced by J. Polisini of DTSC. The 20-day exposure period will be used in the polychaete growth test.
COMMENT 12: DTSC agrees that the scope of this investigation does not include assessment of biota associated with the water column or terrestrial biota which exploit aquatic resources (Section 6.2, page 6-2). The results of the sediment study may indicate that these receptors require evaluation.	**RESPONSE 12:** Comment noted.
COMMENT 13: The decision criteria for sediment chemistry (Section 6.2, page 6-2) need clarification. The initial presentation of decision criteria (Figure 3-2, page 3-5) indicate a comparison of sediment chemistry concentrations with National Oceanic and Atmospheric Administration (NOAA) Effects Range-Low (ERLs) and Effects Range-Median (ERMs) as the single decision criterion. Later (Section 0.6 [sic], page 6-2) a statistical difference among sampling strata is required to indicate a potential sediment chemistry problem with subsequent comparison with ERLs and ERMs. Isolated sediment concentrations elevated above ERLs or ERMs may be considered significant even if there is no statistical difference among the sampling strata. For example elevated mercury, polychlorinated biphenyls or silver at a single outfall, due to past disposal practices, could be considered significant and require further investigation regardless of the statistical comparison of the strata.	**RESPONSE 13:** The discrepancy between Figure 3-2, page 3-5, and the text in Section 6.2 has been corrected. The chemistry data will first undergo statistical comparisons between the inner strata versus the outer stratum. If a constituent is significantly greater in an inner stratum than the outer stratum, the data will then be evaluated against the ERLs and ERMs. It is true that there may not be any significant difference between the inner and outer strata and the concentrations may indicate that there are elevated levels throughout. The next step in such a case would involve extensive dialogue between the agencies and the Navy to determine the appropriate subsequent course of action.
COMMENT 14: The footnotes describing the decision matrix (Table 6-1, page 6-3) should clearly state that either a statistically significant difference ($p \leq 0.05$) or a relative difference of 20 or 30 percent in the toxicity testing would be indicated by a plus.	**RESPONSE 14:** Comment noted. The footnote for Table 6-1, page 6-3, has been modified to state that either a statistically significant difference ($p \leq 0.05$) or a relative difference of 20 or 30 percent in the toxicity testing would be indicated by a plus.

COMMENT 15: The Field Sampling and Analysis Plan (FSAP) indicates that temperature will be measured to the nearest 0.5°C (Section 4.2.2, page AA-4) while the Quality Assurance Project Plan (QAPP) indicates that temperature will be measured to ± 0.1°C (Table C3-3, page C3-6).	**RESPONSE 15:** The temperature field measurement described in the Field Sampling and Analysis Plan has been modified to agree with the Quality Assurance Project Plan, i.e., temperature will be measured to ± 0.1°C.
COMMENT 16: The sediment core sampling plan (FSAP Section 4.3.2, page A4-5) should include a photograph of the core with a scale included in the frame after extrusion from the Vibracore device.	**RESPONSE 16:** Comment noted. Section 4.3.2, page A4-5, of the Field Sampling and Analysis Plan has been modified to include the photographing of each core after extrusion, and each frame will include a scale.

09 January 1996

RESPONSE TO AGENCY COMMENTS FROM TECHNICAL REVIEW OF
CTO-0092 DRAFT WORK PLAN FOR SEDIMENT CHARACTERIZATION OF THE BOAT CHANNEL

Written on 14 November 1995
From: Corey M. Walsh, California Regional Water Quality Control Board, San Diego Region (9)
To: Alice Gimeno, Department of Toxic Substances Control, Office of Military Facilities, Region 4

Received 30 November 1995

GENERAL COMMENTS

COMMENT 1: Consider subdividing each of the three "strata" into near-shore (below storm water outfalls) and deep water zones, then randomly select sample locations within these zones.	**RESPONSE 1:** Further subdivision of each stratum in the Boat Channel is not proposed. For the purposes of this characterization study, it is believed that the stratified random sampling approach as currently proposed will be adequate.
COMMENT 2: Assure sample collection depths extend through entire estuarine deposits to the native soil contact.	**RESPONSE 2:** The Field Sampling Plan states that each core will be collected from a maximum depth of 6 feet below the sediment surface or to the depth of the interface with the native river channel sediment layer, whichever is less. It is not the intent of this investigation to analyze the entire depositional zone that has been formed subsequent to the formation of the Boat Channel.
COMMENT 3: The proposed division of each core into six (approximately one foot long) subsections should take into account physical characteristics of the sediment (e.g., depositional intervals).	**RESPONSE 3:** The physical characteristics of each core will be noted and logged before subsectioning. The cores will be subsectioned into three subsections consisting of surface, approximately 1 to 4 feet, and 4 to 7 feet below the bottom surface of the boat channel. The subsections will be 2- to 3-foot layers instead of the 1-foot layers as previously proposed. This change reflects the fact that the standard remedial technology (i.e., dredging), if such action is required, is only accurate to $\pm$ 2 feet, and 1-foot intervals would be too narrow to capture accurately. This change is also a function of budgetary constraints.
COMMENT 4: Sediment chemistry should be conducted for each toxicity test sample (surface sediment interval).	**RESPONSE 4:** Sediment chemistry will be analyzed for each toxicity test sample, an approach that is already proposed in the draft Work Plan.

COMMENT 5: Will the basic water quality samples be collected at the surface or at depth?	**RESPONSE 5:** The basic water quality samples will be collected from the surface. These will only be field measurements to provide a context for physical conditions encountered during sampling. These data will not be used in any of the analyses

Bechtel

401 West A Street
Suite 1000
San Diego, CA 92101-7905

CLEAN II Program
Bechtel Job No. 22214
Contract No. N68711-92-D-4670
File Code: 0202

IN REPLY REFERENCE: CTO-0092/0042

January 19, 1996

Commanding Officer
Naval Facilities Engineering Command
Southwest Division
Mr. Paul Kennedy, Code 0233
Building 128
1220 Pacific Highway
San Diego, CA 92132-5187

Attention: Mr. Paul Kennedy
Contracting Officer

Subject: Technical Meeting Summary - Boat Channel Sediment Characterization Study
Naval Training Center, San Diego

Dear Mr. Kennedy:

This letter is written to provide a summary of the comments and topics raised during our December 21, 1995 meeting with Jan Corbett, Dennis Askvig, and yourself concerning the approach and sampling that will be conducted as a part of the Sediment Characterization of the Boat Channel at NTC.

To reiterate the major points, it is our understanding that the following conclusions were agreed upon at this meeting and that we seek agency concurrence before inclusion in the final work plan:

- The basic approach will remain the same, i.e., the Boat Channel will be subdivided into three strata based on hydrology and three sample locations will be randomly placed within each stratum. A tenth station will be located near the outfall of the former fire fighter training area but the resulting data from this station will not be used for comparative purposes. The results from each of the inner strata will be compared with the outer stratum.

- The cores will be divided into three layers instead of the six layers that were proposed in the Draft Work Plan. These layers will consist of the surface and approximately one to four feet and four to seven feet below the bottom surface of the Boat Channel.

- The analyte list will not include phthalate esters. These analytes have been eliminated from the chemical analysis list because they are not part of a routine analyte list and are often associated with sample container and/or laboratory contamination. These chemicals were originally included to provide consistency with other sediment sampling programs being conducted under CLEAN II (e.g., CTO-026, Long Beach West Basin). However, during development of this Work Plan it has been agreed that the results will be evaluated with other San Diego Bay programs, such as the Bay Protection and Toxic Cleanup Program, which did not include the phthalate esters.

The response to the agency comments submitted by the California Department of Toxic Substances Control, California Regional Water Quality Control Board, and Marine Environmental Support Office of NCCOSC and the Final Work Plan with the comments incorporated will be sent under separate cover. If you have questions regarding this matter, please call me at 619/687-8795 or Noriko Kawamoto at 415/768-3070.

Yours very truly,

Jerry F. Bailey
Project Manager

NK/JFB/js