

## DEPARTMENT OF TOXIC SUBSTANCES CONTROL

Region 4

West Broadway, Suite 350  
Beach, CA 90802-4444  
(310) 590-4868



N60258.000691  
NSY LONG BEACH  
SSIC #5090.3

November 3, 1993

Captain Barry Janov  
Commander Long Beach Naval Shipyard  
300 Skipjack Road  
Long Beach, California 90822-5099

Lieutenant Commander J.L. Snyder  
Civil Engineer Corps, U.S. Navy  
Long Beach Naval Station  
Long Beach, California 90822-5000

Dear Captain Janov and Commander Snyder:

DRAFT PHASE 1 RCRA FACILITY INVESTIGATION WORKPLAN (INSTALLATION RESTORATION PROGRAM SITE INSPECTION WORKPLAN) FOR SITE 6B: LONG BEACH NAVAL SHIPYARD AND LONG BEACH NAVAL STATION  
(EPA ID NO. CA6170023109)

The California Department of Toxic Substances Control (Department) has completed its review of the Draft Phase 1 RCRA Facility Investigation (RFI) Workplan (Site Inspection Plan) for Site 6B. The workplan is dated September 20, 1993. The workplan was submitted in accordance with the RCRA Corrective Action requirements of the Hazardous Waste Facility Permit issued to the Long Beach Naval Shipyard in May of 1990.

The Site Inspection Work Plan for Site 6B was prepared as a supplement to the Navy's investigation of Site 6A located adjacent to and east of Site 6B. Upon completion of the workplan activities, the Navy must submit an RFI (SI) Report documenting the results of the investigation. In addition, the Navy must consult with the Department to determine whether or not further investigation of the site is required.

The Department has compiled comments from its internal technical staff regarding the workplan, risk assessment, Field Sampling Plan, Quality Assurance Project Plan, Waste Management Plan and Data Management Plan. The comments are included as Attachments A & B of this letter. The Department's comments on the Health and Safety Plan will be sent under separate cover. In addition, we have included comments from the Los Angeles Regional Water Quality Control Board as Attachment C. The following list provides the name and position of the specific individual whose comments are included within each attachment (please note these comments are identical to the draft comments faxed to the Navy's contractor on October 21, 1993):



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Attachment A: John P. Christopher, Ph.d., D.A.B.T.  
Staff Toxicologist  
Human and Ecological Risk Section  
Office of Scientific Affairs  
Department, Sacramento

Attachment B: Allen R. Winans, C.E.G.  
Associate Engineering Geologist  
Program Coordination and Policy Dev. Branch  
Department, Sacramento

Attachment C: Jim Ross, Chief  
Site Cleanup Unit  
Regional Water Quality Control Board  
Los Angeles Region

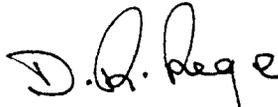
Upon submittal of the Final RFI (SI) Workplan, please attach a cover letter to the workplan which includes a list of revisions from the draft editions. The list of revisions must clearly identify all the changes by both section and page numbers. Please submit a copy of the Final workplan to all individuals whose comments are included as attachments with this letter.

The Department would also like to take this opportunity to reply to the September 10, 1993 letter from Lieutenant Commander J.L. Snyder of the Long Beach Naval Station. Lt. Commander's letter requested the Department's concurrence with the Navy's position that no separate environmental investigation is required at this time for the eastern portion of Site 6B, which will be encompassed in the temporary roadway proposed to extend from Site 6A. The Department concurs that since the area is currently covered with asphalt and construction of the temporary roadway will not involve intrusive activities, no environmental investigation associated with the construction of a temporary roadway across Site 6B is required. However, should implementation of the SI Workplan at Site 6B reveal an immediate threat to human health and the environment or should it be determined that an interim roadway across the site presents a threat, then the Department reserves the right to prohibit the Navy from proposing any improvements to the site until a comprehensive investigation is completed. \*

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Any questions regarding the comments included with this letter should be directed to Mr. Craig O'Rourke of my staff. Mr. O'Rourke can be reached at (310) 590-4875.

Sincerely,



D. (Anand) R. Rege  
Unit Chief  
Facility Permitting Branch

Attachments (3)

cc: Mr. Albert Arellano, Jr., P.E.  
Unit Chief  
Base Closure Branch  
Department of Toxic Substances Control  
245 West Broadway, Suite 350  
Long Beach, California 90802

Mr. Craig O'Rourke  
Facility Permitting Branch  
Department of Toxic Substances Control  
245 West Broadway, Suite 350  
Long Beach, California 90802

Mr. John Christopher Ph.D., DABT  
Office of Scientific Affairs  
Department of Toxic Substances Control  
P.O. Box 806  
Sacramento, California 95612-0806

Mr. Allen Winans  
Program Coordination and Policy Development Branch  
Department of Toxic Substances Control  
400 P Street, 4th Floor  
P.O. Box 806  
Sacramento, California 95812-0806

Mr. Alvaro Gutierrez  
Waste Management Engineer  
Base Closure Branch  
Department of Toxic Substances Control  
245 West Broadway, Suite 350  
Long Beach, California 90802

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Mr. J.E. Ross  
California Regional Water Quality Control Board  
Los Angeles Region  
101 Centre Plaza Drive  
Monterey Park, California 91754-2156

Captain Kleven  
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Long Beach Naval Shipyard  
Long Beach, California 90822-5099

Mr. Duane Rollefson  
Naval Station Long Beach  
Environmental Division  
Code N46, Bldg. 1, Room 271  
Long Beach, California 90822-5000

Ms. Anna Ulaszewski  
Environmental Protection Division, Code 106.31  
Long Beach Naval Shipyard  
Long Beach, California 90822-5099

Mr. Allen Lee  
Remedial Project Manager  
Southwest Division  
Naval Facilities Engineering Command  
1220 Pacific Highway  
San Diego, California 92132-5181

Ms. Denise M. Klimas  
Coastal Resource Coordinator  
NOAA  
c/o U.S. EPA, Region IX  
75 Hawthorne Street  
San Francisco, California 94105

Dr. Robert Kanter, Manager  
Environmental Planning  
Port of Long Beach  
P.O. Box 570  
Long Beach, California 90801

Mr. Lester Kaufman, Chief  
Permits Section  
Hazardous Waste Management Division (H-3)  
U.S. EPA, Region IX  
75 Hawthorne Street  
San Francisco, California 94105

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Ms. Betsy Mitchell  
Environmental Scientist  
Port of Los Angeles  
P.O. Box 151  
San Pedro, California 90733-0151

Ms. Maria Gillette  
Community Re-use Specialist  
Department of Toxic Substances Control  
245 West Broadway, Suite 350  
Long Beach, California 90802

**M e m o r a n d u m**

**To :** Craig O'Rourke  
Facilities Permitting Branch, Region 4  
245 W. Broadway, Suite 350  
Long Beach, California 90802-4444

**Date:** 6 October 1993

**From :** Office of Scientific Affairs (OSA)  
400 P Street, 4th Floor  
P. O. Box 806  
Sacramento, CA 95812-0806  
Voice: (916) 255-2038 Fax: (916) 255-2093 (ATSS 8-494-2038,2093)

**Subject :** Long Beach Naval Complex, Site 6B  
PCA Code: 14650 Site Code: 400289-43

**Background**

Long Beach Naval Complex (LBNC) is in Los Angeles County, in the immediate vicinity of the ports of Los Angeles and Long Beach. The complex is composed of Long Beach Naval Station (LBNS), a military base, and Long Beach Naval Shipyard (LBNSY), a drydock facility capable of servicing very large vessels. LBNS is slated for closure in the 1990's. Currently, the Navy is conducting a RCRA Facility Investigation (RFI) which includes the entire complex. Region 4 has asked OSA to provide ongoing support in areas of toxicology and risk assessment related to the RFI.

Site 6B is a parcel of LBNC currently under lease to the Port of Los Angeles (POLA). Site 6B was not included in the RCRA Facility Assessment of the rest of LBNC. Some investigations were performed earlier by POLA, however, in connection with the removal of underground tanks.

**Document Reviewed**

We reviewed "Draft Site Inspection Plan for Site 6B, Naval Station, Long Beach, CA". This document was prepared by Bechtel Corporation, contractors to the Navy. It is dated 20 September 1993.

**General Comments**

1. The document was reviewed for scientific content. Minor grammatical or typographical errors that do not affect the interpretation have not been noted. However, these should be corrected in the final version of the document.
2. Future changes in the document should be clearly identified. This may be done

in several ways: by submitting revised pages with the reason for the changes noted, by the use of strikeout and underline, by the use of shading and italics, or by cover letter stating how each of the comments hereunder has been addressed.

### Specific Comments

1. **Tri-*o*-cresyl Phosphate, Sec. 7.1, p. 28:** This substance is extremely toxic. Ensure in the QAPP that analytical limits of detection are adequate to detect toxicologically levels in environmental media.
2. **Guidance for Risk Evaluation, Sec. 8.4, p. 32:** The document referred to in first bullet on this page should not be used. Instead, use "Supplemental Guidance for Human Health Multimedia Risk Assessments of Hazardous Waste Sites and Permitted Facilities," published by the Office of Scientific Affairs, July 1992. One chapter of this document is referred to on page 36.
3. **Identification of Inorganic Constituents of Concern, Sec. 8.4.1, p. 33:** Compare concentrations of metals detected at Site 6B with concentrations in background using one of the two statistical techniques described in Appendix A to the final workplan for the Removal Site Evaluation for Site 6A. Either of these techniques will require a sizeable data base for background. In addition to the data collected in the present investigation, OSA suggests including data from previous investigation of Site 6B by the POLA, from concurrent investigation at Site 6A, and from the recently completed RCRA Facility Assessment. Identification of background levels of metals at these highly anthropogenically impacted could benefit from "cluster analysis", a statistical technique for identifying background levels within the boundaries of the site.
4. **Receptors, Sec. 8.4.3, pp. 34-35:** OSA agrees with the Navy that exposure should be assessed using the short-term excavation scenario and the longer term on-site occupational scenario.
5. **Risk Characterization, Sec. 8.4.4, p. 37:** OSA notes that the Navy states it has reserved the right to reject the use of California potency factors at a future time. The Department feels strongly that these potency factors are applicable or relevant and appropriate (ARAR) criteria and must be used to assess health risks at LBNC. We expect to continue dialogue with SOUTHWESTDIV on this issue and reach a resolution which will not require any unilateral actions by either the Department or the Navy.

C. O'Rourke  
6 October 1993  
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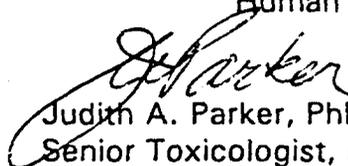
### Conclusion

The work plan for Site 6B is acceptable, provided additions are made to it in response to the comments above. Please call us with any questions.



John P. Christopher, PhD, DABT  
Staff Toxicologist  
Human and Ecological Risk Section (HERS)

Reviewed by:



Judith A. Parker, PhD, DABT  
Senior Toxicologist, HERS

# Memorandum

To : Craig O'Rourke  
Site Mitigation Branch  
245 West Broadway, Suite 350  
Long Beach, California 90802

Date : October 13, 1993

From : Program Coordination and Policy Development Branch  
400 P Street, 4th Floor  
P.O. Box 806  
Sacramento, California 95812-0806

Subject: Long Beach Naval Complex Site 6B

## INTRODUCTION

I have reviewed the Draft Removal Site Inspection Plan For Site 6B - Naval Station Long Beach, CA ( the plan ), dated September 20, 1993. This plan was produced for the Navy by Bechtel National, Inc, and is not signed by a geologist or civil engineer registered by the State of California.

The plan includes seven parts; the Work Plan, the Field Sampling Plan ( *FSP* ), the Quality Assurance Project Plan ( *QAPP* ), the Data Management Plan ( *DMP* ), Waste Management Plan ( *WMP* ), the Health and Safety Plan ( *HSP* ), and a memorandum regarding Applicable or Relevant and Appropriate Requirements ( *ARARs* ). Typographic errors and other minor items are not addressed in this memorandum. The *DMP*, *WMP*, *HSP*, and the *ARARs* memo are not reviewed here. My comments address only the geologic and hydrogeologic aspects of this plan.

This plan is designed to augment the Preliminary Assessment ( *PA* ) of April 1993, the Port of Los Angeles investigation of August 1990, and the Department of the Navy soil analyses of 1982.

## CONCLUSIONS

The plan has too few details to approve or approve with exceptions. Rationale is omitted for: why samples are to be taken at particular depths, why samples are omitted from key depths, why surface geophysical methods are omitted, and how the results of water level measurements in a tidal-influenced area will be interpreted.

All future documents ( including the finalized version of that reviewed here ) containing descriptions of geology, geophysics, ground water chemistry or flow, or engineered features, plans for investigating such, or interpretations of physical conditions must be signed by a geologist or civil engineer registered by the State of California.

## SPECIFIC COMMENTS and RECOMMENDATIONS

### **Part I            Work Plan**

#### **Section 5.1.1            Data Needs**

The location of the Hydropunch® samples are to be based on the determination of the direction of ground water flow. Ground water flow direction will probably be influenced by tidal surges. Water levels in the wells are to be determined only twice, sometime at least 12 hours after well development. It is likely that the ground water flow direction will not be determined without a systematic analysis of the tides compared to continuously recorded well water levels. There is no discussion of local ground water pumping and its possible effects. Lastly, Terminal Island is a flat, sandy island and the fresh water ground water will probably be a thin lens in cross-section, with flow roughly toward the East Basin Channel ( to the northwest ) and the Seaplane Base ( to the south ).

Please discuss the timing of the water level measurements, the utility of measuring them only twice, pumping effects, and the likelihood of being able to determine the flow direction by the proposed method. Absent definitive data, the Hydropunch® locations should be determined based on where well data are sparse. Even if the natural ground water flow direction can be unambiguously determined, effects due to pumping may impact the probably flat horizontal gradient.

#### **Table 5-1            Data Quality Objectives Summary**

Rationale is not provided for shallow subsurface soil sampling to be conducted at 4 to 5 feet below the surface. The depth to the top of the abandoned fuel tanks is reported to be 6 feet, the depth the bottom of the tanks is reported to be 14 to 16 feet, and the depth to the connecting pipelines unknown. Depth to water is estimated to be 7 to 10 feet, so that the tanks are partially submerged.

Please discuss the rationale for the selected depth and why the soils at the water table are omitted. Since the three wells are to be installed prior to data analysis, the core should be utilized to maximum advantage. During the process of collecting soil samples to total depth, use a screening method for hydrocarbons ( e.g., ultraviolet ) to direct the sampling depths for the soil sampling program.

Section 5.4.4                    Monitoring, Well Drilling, Installation, and Sampling

The description of monitoring well development includes the alternative for air-lift surging. Air-lift surging can add air to the formation, shoot water uncontrolled onto the ground around the well head, and make it difficult to estimate the volume of water removed during development.

Please delete the reference to air-lift surging as an alternative well development method.

The water level monitoring is proposed to entail two rounds of measurements sometime at least 12 hours after well development. This may be inadequate to determine what, if any ground water flow direction prevails ( see comment for Section 5.1.1 ).

Please provide an assessment of tidal influence on well water levels and consider using continuous recorders to determine the tidal influence. If, ultimately, spot water level measurements are taken, what will be the criteria for interpreting data that indicates a change in water levels between the two measurements ? Please provide an assessment of the impacts on water levels in the monitoring wells caused by pumping for water level control on Navy and adjacent property.

The expected depth of ground water is 7 to 10 feet. It may be deeper.

Please ensure that the plan includes adequate requirements for materials for drilling, soil sampling, well installation, development, and water sampling deeper than twice the anticipated depth so that field work can proceed without delay once begun.

Section 5.4.5                    Hydropunch\* Groundwater Sampling

The depth of submergence for the Hydropunch\* is proposed to be three feet. Usually, five feet of submergence is necessary to obtain a complete filling of the sample container.

Please consider whether three feet of submergence is adequate.

The expected depth of ground water is 7 to 10 feet. It may be deeper.

Please ensure that the plan includes adequate requirements for materials for sampling deeper than twice the anticipated depth so that field work can proceed without delay once begun.

## Part II      Field Sampling Plan

### Section 1.2      Study Area Boundaries

There is a mention that the soil will be sampled from the borings for the three monitoring wells. Sample depths are as those for the other soil samples; 6 inches and about 4.5 feet.

Please consider sampling at locations based on the presence of lithologic changes, ultraviolet screening, and/or at the water table to optimize the likelihood of locating the more contaminated zones within the interval investigated.

### Section 4.1      Subsurface Utilities Survey

4<sup>th</sup> bulleted item

The parenthetical references to electromagnetic surveys and ground penetrating radar surveys have been proven to be unfounded since all the surface geophysics to be performed are pipeline locating by electrifying the pipes.

Please delete the parenthetical references to surface geophysics. The last paragraph discusses the method to be used for utilities locating. Please make that paragraph the bulleted item.

### Section 4.4      Groundwater Sampling - Hydropunch<sup>®</sup>

See comments for Part I, Section 5.4.5.

### Section 4.5      Groundwater Sampling - Monitoring Wells

The steps listed for sampling of ground water do not include looking for floating constituents.

Please include as the first step of sampling, sampling the surface of the ground water ( the water table ) with a semi-transparent bailer to ascertain the presence of an immiscible layer.

Section 4.8                    Sample Preservation

There is no discussion of verifying that acidified samples have been acidified to the recommended pH.

Please describe how the samples will be verified to have been acidified in the field. Laboratory supplied preservatives must be checked with field-derived water to adjust the amount of preservative to ensure meeting the pH requirements of the method.

Section 4.9.2                Groundwater Sample Packaging

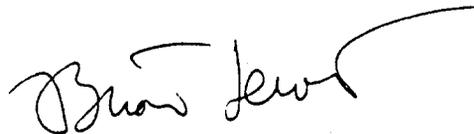
There is no discussion of how much Blue Ice<sup>®</sup> is necessary to reduce the transporting cooler temperature to 4°C, nor how the temperature is verified. There is no discussion of how much Blue Ice<sup>®</sup> is too much such that glass containers may be broken by water expanding as it freezes.

Please include the minimum amount of ice required to lower the transporting cooler to 4°C and how the temperature is verified. Also describe how glass containers will be protected from breakage caused by expansion of the water as it freezes.

If you have any questions or comments, please call me at (916) 255-2104 or Calnet at 8-494-2104.



Allen R. Winans  
C.E.G. No. 1402  
Associate Engineering Geologist



Concur:                    Brian Lewis  
C.E.G. No. 1414  
Senior Engineering Geologist  
Permitting and Enforcement  
Geological Support Unit

**Memorandum**

To : Mr. Craig O'Rourke  
Department of Toxic Substances Control  
Facility Permitting Branch  
245 W. Broadway, Suite 350  
Long Beach, CA 90802-4444

Date: October 18, 1993

File : 90-76

From : CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD—LOS ANGELES REGION  
101 Centre Plaza Drive, Monterey Park, CA 91754-2156  
Telephone: (213) 266-7500

Subject: DRAFT SITE INSPECTION PLAN FOR SITE 6B, NAVAL STATION LONG BEACH-  
LONG BEACH, CALIFORNIA ( File No. 90-76)

We have received and reviewed the draft Site Inspection Plan for Site 6B, Naval Station Long Beach, dated September 20, 1993. We understand that comments from the draft preliminary assessment (PA) were to have been addressed in the Site Inspection Plan (SI), as per the Department of Toxic Substances Controls letter to the Navy dated September 17, 1993. Remark No. 1 refers to our comments on the PA document that were not addressed in the draft SI. Our comments based on the contents of the draft SI plan and the PA are as follows:

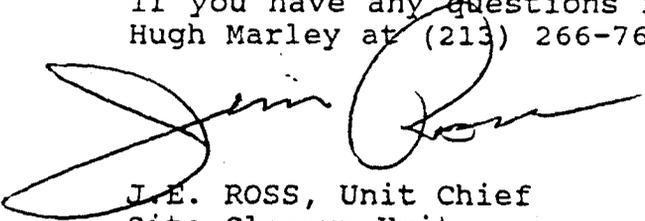
- . A site plan showing abandoned and existing oil and gas wells in the general vicinity should be included on a site map. These are of interest as they may provide both hydraulic continuity and a pathway for the migration of contaminants between the shallow and deeper aquifers.
- . The SI did not address potential groundwater contamination in the area of the Marine Corps Reserve Center (MCRC) as recommended in the draft PA. We believe that in order to fulfill the Data Quality Objectives (DQOs) for Site 6B, the proposed groundwater investigation should be expanded to include both Stratum 6B-1 and 6B-2.
- . Section 2.0 states that the SI will not completely delineate the extent of the contamination whereas Section 5.3 states that one of the DQOs are to characterize the site relative to the nature and extent of constituent impact. These statements appear to contradict each other and should be rephrased.
- . Section 3.2.2 refers to a Harris Street on Figure 3.4. Harris Street is not identified on Figure 3.4 as stated.
- . Section 8.4 states that no complete pathway exists between the groundwater and the environment. However,

Craig O'Rourke  
Department of Toxic Substances Control  
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water level fluctuation due to tidal influences are possible and will be assessed as stated in Section 5.1.1. We believe that Section 8.4 should reflect the following:

- a) Tidal influences on the groundwater, if any exist, would indicate that a pathway to surface water is present.
- b) Oil and gas wells (if any) present both onsite and downgradient also be considered potential pathways to the underlying aquifers (see comment No. 1).

If you have any questions regarding this matter, please contact Hugh Marley at (213) 266-7650.



J.E. ROSS, Unit Chief  
Site Cleanup Unit