



Department of Toxic Substances Control



Winston H. Hickox
Agency Secretary
California Environmental
Protection Agency

Edwin F. Lowry, Director
700 Heinz Avenue, Suite 200
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N00236.002463
ALAMEDA POINT
SSIC NO. 5090.3

Gray Davis
Governor

October 15, 2002

Richard Weissenborn
Department of Navy
Southwest Division
Naval Facilities Engineering Command
1230 Columbia Street, Suite 1100
San Diego, CA 92101

DRAFT TECHNICAL MEMORANDUM, PAH BACKGROUND STUDY FOR ALAMEDA POINT, ALAMEDA, CALIFORNIA

Dear Mr. Weissenborn:

The Department of Toxic Substances Control (DTSC) has completed the review of the above referenced document prepared by Bechtel Environmental and submitted by the Navy on August 23, 2002. Our comments are attached. Please contact me at 510-540-3767, if you have any questions.

Sincerely,

Marcia Y. Liao, Ph.D., CHMM
Hazardous Substances Engineer
Office of Military Facilities

Enclosures

cc: see next page

Mr. Richard Weissenborn
October 15, 2002
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cc: Michael McClelland, SWDiv
Andrew Dick, SWDiv
Steve Edde, Alameda Point
Anna-Marie Cook, EPA
Judy Huang, RWQCB
Elizabeth Johnson, City of Alameda
Peter Russel, Northgate Environmental
Michael John Torrey, RAB Co-Chair
Lea Loizos, Arc Ecology

Department of TOXIC Substances Control



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Gray Davis
Governor

MEMORANDUM

TO: Marcia Liao, Project Manager
Office of Military Facilities - Berkeley
700 Heinz, Building F, 2nd Floor
Berkeley, CA 94710

FROM: James M. Polisini, Ph.D.
Staff Toxicologist
Human and Ecological Risk Division (HERD)

DATE: October 2, 2002

SUBJECT: ALAMEDA POINT (NAVAL AIR STATION ALAMEDA)
DRAFT TECHNICAL MEMORANDUM, PAH BACKGROUND STUDY
[PCA 18040 SITE 201209-00 H:60]



Background

HERD has reviewed the document titled *Draft Technical Memorandum PAH Background Study for Alameda Point, Alameda, California*, dated August 2002. This report was produced by Bechtel Environmental, Inc. of San Diego, California. This review is in response to your written work request dated September 7, 2002.

The northern portion of NAS Alameda was formerly tidelands, marshes or sloughs which were filled with dredge spoils from San Francisco Bay, San Antonio Creek and the Oakland Inner Harbor. Specific sources of fill and placement of this material has not been determined.

Eight transfer parcels at Naval Air Station (NAS) Alameda were sampled for soil concentrations of polycyclic aromatic hydrocarbons (PAHs). Soil samples were collected from 305 borings at 4 distinct depth intervals in these eight transfer parcels. No release or disposal has been shown to have occurred in all parcels. The Navy contends that it is 'likely' that the PAHs detected in artificial fill at NAS Alameda resulted from a combination of historical industrial activities and fill activities using sediments from San Francisco Bay and the Oakland Inner Harbor. The purpose of this effort was to develop some estimate of the PAH concentration in the materials used to construct portions of NAS Alameda, specifically the eight transfer parcels.

General Comments

The incremental cancer risk and non-cancer hazard from exposure to polycyclic aromatic hydrocarbons (PAHs), contained in sediments used to construct NAS Alameda, even if contaminated prior to placement at NAS Alameda, must remain in the HHRA risk assessment for consideration of remedial alternatives.

California Environmental Protection Agency

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The human health incremental cancer risk and non-cancer hazard, as well as ecological hazard, posed by the total concentrations of these compounds must be included in the consideration of remedial actions. Risk managers and the public must be made aware of the total risk and/or hazard associated with this site. Should the Navy wish to include some discussion of the widespread PAH concentrations at NAS Alameda, HERD will consider that argument. Any 'ambient' PAH concentration must not be used to select Contaminants of Potential Concern (COPCs) as an initial step in the HHRA or ERA.

Private parties which place contaminated materials on their property are responsible for the consideration of remediation of those materials. HERD is unaware of any specific Department of Defense (DoD) exclusion in the Comprehensive Environmental Response and Liability Act (CERLA) as amended by the Superfund Amendment and Reauthorization Act (SARA) which addresses an exclusion for DoD sites. Questions regarding responsibility for these contaminants, which were placed at NAS Alameda by DoD activities, should be addressed by DTSC Office of Military Facilities (OMF) and DTSC Legal Department.

Specific Comments

1. Soil samples were collected on a 2 acre grid for parcels EDC-5, EDC-12, EDC-17, EDC-21 and PBC-3. Samples were collected on a 5-acre grid for transfer parcels FED-1A, PBC-1A and EDC-3 (Section 2.2.2, page 2-2) based on projected future use (Section 2.2.1, page 2-1). Please provide box and whisker plots of the individual PAH concentrations comparing these two groups.
2. Please provide a figure indicating the locations where samples were reported as non-detect for indeno[1,2,3-cd]pyrene at 25 percent and dibenz[a,h]anthracene at 52 percent of samples (Section 3.2, page 3-1 and Table C2-1). A separate set of figures should indicate the locations where non-carcinogenic PAHs were reported as not detected with percent non-detects ranging from 20 percent (Section 3.3, page 3-2) to 81 percent. In the event that the samples reported as non-detects are relatively contiguous some shading or contouring should be applied to the figure to outline any relatively contiguous area of samples reported as non-detect.
3. The coefficient of variation for all the carcinogenic PAHs is above 1000 percent (Table 3-1, page 3-11). The coefficient of variation for 5 of the non-carcinogenic PAHs is 1000 percent (Table 3-2, page 3-13). These results indicate an incredible amount of variance in the PAH concentrations. Please present a similar table which separately presents the results of the eight transfer parcels.
4. There appears to be an inflection point at a natural log benzo(a)pyrene (B(a)P) equivalent concentration of approximately 2 (Figure 4-3, page 4-6). This would conform to a B(a)P concentration of approximately 7.4 µg/kg. Please indicate whether the samples below this value are geographically separate from those above this value.
5. Upon visual inspection, the highest B(a)P equivalent concentrations appear to be in EDC-5 (Figure 5-2, page 5-5) and not uniformly distributed across NAS Alameda. A single 'ambient' PAH concentration may not be applicable across all of NAS Alameda.
6. There is some discussion that '...none of the values presented represent background concentrations at Alameda Point...' (Section 4.2, page 4-7). This is followed by a discussion of concentrations '...representative of the background B(a)P equivalent...' (Section 5.2, page 5-2) and the title page indicates that this is a 'PAH Background

Study for Alameda Point'. Please be consistent. Either remove the references to background in the text or change the title of the document.

7. The log transformed probability plots for benz(a)anthracene (Figure C-3), B(a)P (Figure C-9), benzo(b)fluoranthene (Figure C-15), benzo(k)fluoranthene (Figure C-21), chrysene (Figure C-27), dibenz(a,h)anthracene (Figure C-33) and indeno(1,2,3-c,d)pyrene (Figure C-39) all appear to have an inflection point at approximately the 50 percent cumulative percentage point. If the values below this point are reported as non-detect or are estimated (i.e., J-qualified) please indicate that on the figures.

Conclusions

HERD has several requests outlined above for full consideration of the Navy proposal regarding 'ambient' PAHs at NAS Alameda outlined in the Specific Comments above.

HERD is also pursuing independent review of the data set which was forwarded electronically. The proposed mean B(a)P equivalent concentration is 97 µg/kg and the median B(a)P equivalent concentration is 42 µg/kg. The percentile B(a)P equivalent concentrations are: 90th percentile of 250 µg/kg; 95th percentile of 480 µg/kg; and a 99th percentile of 690 µg/kg.

Regardless of any Navy proposed justifiable 'ambient' concentration of PAHs the total risk and hazard associated with exposure to PAHs must be presented for consideration by the risk managers.

Reviewed by: Michael J. Wade, Ph.D., DABT *MJW*
Senior Toxicologist, HERD

cc: Sophia Serda, Ph.D., Toxicologist
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Marcia Liao
October 2, 2002
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