



Department of
Toxic Substances
Control

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AR_N00217_003374
HUNTERS POINT
SSIC NO. 5090.3.A



August 12, 1996

96 AUG 15 11:24

Pete Wilson
Governor

James M. Strock
Secretary for
Environmental
Protection

Engineering Facility Activities, West
Attn: Mr. Richard Powell [1832]
900 Commodore Drive
San Bruno, California 94066-5006

Dear Mr. Powell:

PARCEL D REMEDIAL INVESTIGATION (RI) REPORT HUNTERS POINT

The Department of Toxic Substances Control (Department) received the Parcel D RI report on 7/1/96. Per Federal Facility Agreement (FFA), the agencies have 45 days to review and submit comments. Enclosed are risk assessment comments and comments from the Regional Water Quality Control Board.

As pointed out by the members of the Restoration Advisory Board, it is very difficult to grasp the critical points of a 23-volume report. We believe that the BCT and the project teams should strive to ensure speedy review of critical areas in a manageable fashion. The Department would like to meet with the Navy and other BCT members to streamline the process before the next major FFA deliverable is due.

We have not been able to find information with respect to the present and future links between soil and groundwater contamination. We believe that such links need to be fully explored. This will ensure the Navy to appropriately implement steps to address that possibility.

As pointed out in the enclosed comments, it is not appropriate to use permissible exposure limits (PEL). As the text discusses, the PELs are established for occupational workers. PEL values are not meant to replace CERCLA cleanup values nor should be used as screening criteria.

As stated before, the Phase 1B ecological risk assessment does not address groundwater migration from the IR sites into the Bay. However, the text defers the groundwater migration into the Bay to the ecological investigation. We are not sure if the Navy wishes to expand the scope of the ecological investigation.



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It appears that the Navy is evaluating cross boundary contamination in an area of 200 feet. We do not believe to arbitrarily impose a limit for the migration to occur, now and in the future. Further, it appears that the section on cross boundary migration is deliberately vague. The report should articulate what actions will be taken, if contamination has migrated off-site or will likely to migrate. It is not sufficient to state the status of present cross boundary migration. Future possibilities need to be explored as well.

Should you have any questions regarding this letter, please call me at (510) 540-3821.

Sincerely,



Cyrus Shabahari
Project Manager
Office of Military Facilities

Enclosures

cc: US EPA
Region IX
Attn: Anna-Marie Cook [H-9-2]
75 Hawthorne Street
San Francisco, California 94105

Regional Water Quality Control Board
Attn: Richard Hiett
2101 Webster Street, Suite 500
Oakland, California 94612

City and County of San Francisco
Department of Public Health
Attn: Amy Brownell
101 Grove Street, Room 207
San Francisco, California 94102

Engineering Facility Activities, West
Attn: Mr. Mike McClelland [62.3]
900 Commodore Drive
San Bruno, California 94066-5006

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

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**MEMORANDUM**

TO: Cyrus Shabahari, Project Manager
Site Mitigation Branch, Region 2
700 Heinz, Second Floor, Building F
Berkeley, CA 94704

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

DATE: August 12, 1996

SUBJECT: PARCEL D DRAFT REMEDIAL INVESTIGATION HUMAN HEALTH RISK
ASSESSMENT
[PCA 14740, SITE 200050-47 H:22]

**Background**

We have reviewed portions of the document titled *Parcel D Remedial Investigation Draft Report, Hunters Point Shipyard, San Francisco, California* dated June 28, 1996 and prepared by PRC Environmental Management, Inc. The volumes received for review included: Volume I, Text; Volume XIV, Appendix N, Human Health Risk Assessment; Volume XV, Appendix N, Attachment N-C, Concentration Terms; Volume XVI, Appendix N, Attachment N-G, Current Industrial Scenario Risk and Hazard Summary Tables; Volume XVII, Appendix N, Attachment N-H-2; and, Volume XVIII, Appendix N, Attachment N-I, Future Industrial Scenario Risk and Hazard Summary Tables and Appendix O, Contaminant Fate and Transport. These volumes were received in our offices on June 22, 1996. This review is in response to your written work request.

Hunters Point Annex (HPA) is situated on a promontory in the southwestern portion of San Francisco Bay. HPA is bounded on the north and east by San Francisco Bay and on the south and west by the Bayview Hunters Point district of San Francisco. The on-base property at HPA is approximately 497 acres on land of which 66 acres are contained in Parcel B. Parcel B is bounded on the north and east by San Francisco Bay, on the south-southwest by Parcel A, on the south-southeast by Parcel C, and on the west by a construction materials recycling facility.

General Comments

In general the risk assessment is well written and understandable. The executive summary, however, contains some statements which are in conflict with the process employed and data contained in the human health risk assessment.



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Specific Comments

Volume I - TEXT

Statements made regarding the total dissolved solids (TDS) values for groundwater do not agree. The TDS for the A-aquifer is first given as 'approximately 440 to over 77,000 mg/l' (page ES-3), then as '200 to 29,000 mg/l (Section 3.8.3.1, page 3-26) and finally as 'ranging from 370 to 29,000 mg/l (Section 4.1.8.1, page 4-19). The TDS for the B-aquifer is given as 'from 450 to 2,700 mg/l' (Page ES-3), then as 'from 1080 to 1230 mg/l' (Section 3.8.3.1, page 3-26), which agrees with 'ranging from 1080 to 1230 mg/l' (Section 4.1.8.1, page 4-19). Please amend the text so that these statements are correct and agree.

It is difficult to see how U.S. EPA Region IX Preliminary Remediation Goals (PRGs) can be termed 'non-HHRA screening criteria' (page ES-8) when the PRGs are based on exposure estimates and human health toxicity criteria. However, this designation does not affect the human health risk assessment.

Remove the text (page ES-8) containing the discussion of 'screening' contaminants of potential concern (COPC) against PRGs. PRGs are to be used to screen sites, not screen COPCs. Additionally, screening against PRGs was apparently not employed, based on the description in the human health risk assessment (Section 2.2.1, page N-2-2).

Comparison to Permissible Exposure Levels (PELs) in a CERCLA risk assessment is not appropriate. Please remove the comparison to PELs for volatile organic compounds (VOCs) in the future industrial use scenario (page ES-10). PELs are set for industrial settings where 1) there is known exposure to particular toxic agents, 2) the exposure is known to those choosing to work in the particular industrial activity and 3) OSHA or Cal-OSHA conducts monitoring programs to ensure that exposure is kept below the PELs. Therefore, PELs do apply to known ongoing exposure, but do not apply to hypothetical future exposures. The Department of Toxic Substances Control (DTSC) has no method of ensuring that future users of a particular site will be informed of the potential exposure to contaminants left at sites evaluated using PELs so that future users can make an informed decision regarding the potential exposure. Similarly, OSHA or Cal-OSHA monitoring for the contaminants left in place could not be guaranteed. U.S. EPA Region 9 PRGs are the appropriate 'first screen' because the PRGs are not dependent on the controls implicit in the PELs. Site-specific industrial exposure calculations may be made to evaluate the future industrial use scenario for those sites where air concentrations exceed the U.S. EPA Region 9 residential air PRGs.

It is difficult to imagine the situation where inhalation of VOCs associated with the A-aquifer is applicable to the future residential use scenario, but not applicable to the future industrial use scenario (Section 4.0, page 4-6 and 4-7). Exclusion of the A-aquifer VOCs from the future use industrial scenario would seem appropriate only for outdoor workers. If the future industrial use scenario considers only outdoor workers, that should be clearly stated. Otherwise addition of inhalation of VOCs associated with the A-aquifer to the future use industrial scenario seems appropriate.

The description of the figures associated with metals in soils and ground water refers to 'The distribution of metals in soil and groundwater that may not be attributable to an environmental release' (Section 4.1, page 4-10). If these figures are presentations of Hunters Point inorganic 'ambient' concentrations, we suggest the notation be 'The distribution of 'ambient' metals in soil and groundwater....' Unfortunately, it cannot be determined if these figures present 'ambient' concentrations because they were not furnished for review.

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Appendix N

This human health risk assessment apparently contains unvalidated data (Section 2.1, page N-2-1). HERD recommends that only validated data be used in human health risk assessments. Changes in the environmental concentration data set due to further data validation will make interpretation of the draft final risk assessment difficult or impossible. This comment has been made on other draft risk assessments. When will the Navy finalize the data set and the exposure concentrations?

Evaluation of the incremental cancer risk associated with chromium VI requires discussion:

1. The methodology for setting a 'surrogate' concentration for chromium VI seems to indicate that samples where total chromium was analyzed and detected (the fifth possibility listed) could have lower chromium VI concentrations than samples where total chromium was analyzed but not detected (the fourth possibility listed), if the total chromium concentration in the former sample is less than the Hunters Point Ambient Level (HPAL) (Attachment N-D, Section 1.1, page N-D-2). The reasoning for adding the comparison to HPALs to the fifth possibility is not clear.
2. I do not agree with the application of the Dixon Test (Attachment N-D, Section 1.2, page N-D-3). This method indicates that some measured concentrations of chromium IV are outliers when considered with all measured chromium VI concentrations. Because they are outliers, and have higher concentrations, they appear to indicate contamination, particularly when there are elevated chromium IV concentrations in samples with relatively low concentrations of total chromium (Table N-D-1, sample location IR22B026, samples 9605G060). Implementation of this method effectively lowers the chromium VI concentration and therefore the risk for those samples where the 'surrogate' chromium VI value is used. The fact that two of the samples removed from the chromium VI data set are from IR32 indicates that incremental risk associated with chromium VI may not be adequately addressed at IR32. At a minimum the elevated chromium VI concentrations should be included in the IR32 risk calculations, especially if the past industrial activities at IR32 indicate that chromium VI may have been used or released at the site.
3. Total chromium detection limits are listed as negative concentrations (Table N-D-1). Recovery for 'spiked' samples may be negative, but, as far as I know, detection limits cannot be negative.

Please provide a citation for the method of determining the exposure point concentration (EPC) for COPCs determined to have a non-parametric distribution (Section 3.2.4.1, page n-3-19 and Attachment N-C, Section 5.0, page N-C-5). We are not aware of this methodology being recommended in any risk assessment guidance documents. As the vast majority of the exposure areas have less than 10 soil samples, it is difficult to see how this methodology will result in an EPC differing much from the maximum concentration.

The Reference Dose (RfD) tables (Table N.4-1) and cancer slope factor (SF) tables (Table N.4-2) were checked at random and all COPCs checked were correct. The next version of the U.S. EPA Region 9 PRG list will reportedly base the manganese PRG on an RfD of 4.7E-02 mg/kg-day rather than the current 5E-03 mg/kg-day, which will elevate the manganese PRG by approximately a factor of 10. The 'revised' manganese PRG may be used is discussing the non-cancer hazard where manganese is a 'driver' based on the current manganese PRG.

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The exposure dose calculation use 0.2 mg/cm^2 as the soil adherence factor for calculating dermal dose in both the reasonable maximum exposure (RME) calculation and the average calculation (Table N.3-7). A soil adherence value of 1.0 mg/cm^2 , as contained in the U.S. EPA guidance on dermal exposure and DTSC Supplemental Guidance for Human Health Risk Assessments, is more appropriate for the RME calculation. Please use this value for the RME calculation.

Evaluation of VOC air concentrations for an industrial scenario should be performed in Hunters Point-specific industrial scenario calculation, not by comparison to PELs (Section 5.2.2, page N-5-11 and Section 6.3, page N-6-3). Please see the PEL comment above for the complete discussion of PELs.

The fourth bullet item summarizing the risk and hazard for the residential use scenario (Section 6.4.2, page N-6-5) appears to contain a typographic error. The text lists 97 exposure areas in the risk range of 10^5 to 10^6 for the future residential use average exposure scenario. The associated table lists (Table N.5-7) 98 exposure areas in this risk range.

Please remove the comparison of air concentrations to PELs (Section 6.4.4, page N-6-8) and substitute a Hunters Point specific industrial use air exposure evaluation.

There does not appear to be any presentation of risk or hazard associated with exposure to both soil and groundwater. For example, residential incremental cancer risk associated with soil is presented in Table N.5-9 while residential incremental cancer risk associated with groundwater is in Table N.5-11. Please provide an additional presentation total risk and hazard for those exposure areas where appropriate. Graphical presentation of total risk or hazard may be more appropriate than tabular presentation because of the differing densities of soil and groundwater samples. We would accept either presentation method.

We could not validate the final calculation of risk and hazard because the intermediate spreadsheets and results of the dose calculations were not included for review. The final chemical-specific risk and hazard is presented in attachment N-G and N-H.

Conclusions

Despite some methodological disagreements we accept the recommendations (ES-27) that all IR sites except IR-48 and IR-66 be carried forward to the feasibility study. Use of PELs for comparison with air concentrations should be removed from the document and replaced with a Hunters Point-specific evaluation of industrial air exposure.

Please supply future versions of this risk assessment and other Hunters Point parcels in electronic format to facilitate review and conserve paper.

Reviewed by: John P. Christopher, Ph.D., DABT
Staff Toxicologist
Human and Ecological Risk Division

cc: Michael J. Wade, Ph.D., DABT, Senior Toxicologist, DSMOA Coordinator, HERD

Cyrus Shabahari
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STATE OF CALIFORNIA

PETE WILSON, Governor

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION**

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VIA FACSIMILE
510.540.3819

Mr. Cyrus Shabahari
DTSC, Office of Military Facilities
700 Heinz Avenue
Berkeley, CA 94710

August 12, 1996
File: 2169.6032

**RE: PARCEL D, REMEDIAL INVESTIGATION, DRAFT REPORT
HUNTER'S POINT ANNEX (HPA)**

Dear Mr. Shabahari:

Board staff have reviewed the referenced report. In general staff concur with most of the conclusions regarding groundwater usage in Parcel D. Board staff also agree to the numerous data gaps regarding the geology, hydrogeology, and potentially affected media, migration pathways, and receptors identified in Section 5 of this report. The Draft Final Parcel D RI should describe in detail how and when the Navy plans to fill these data gaps to the satisfaction of the agencies.

The following comments are provided for clarification and consideration in the completion of the Draft Final RI.

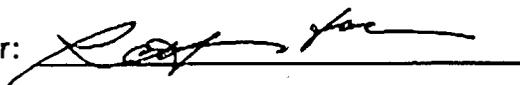
- 1 A majority of this document (Appendices A, B, C, D, E, F, G, H, I, K, L, M, N, O), most of the tables and figures (if and where possible) should be submitted in electronic format. The sheer volume of this document increases the difficulty for review (or move for that matter). A hard copy of this report could be made available for review upon request at a chosen repository.
2. As previously stated in our Parcel B RI comments a basewide evaluation of potential for groundwater transport of contamination to the San Francisco Bay *is not being performed as part of the Phase IB ERA at HPS* as stated in the text. This is a basewide data gap that still must be addressed.
3. Aboveground Tanks: page 2-15: Aboveground tanks that are not in use should demonstrate compliance with current regulations for operation and maintenance otherwise they should be slated for removal.

4. All references regarding dilution (e.g. page 4-21: 4.1.8.4 Groundwater at Parcel D) Parcel D Draft RI
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as a means of ameliorating the impact of groundwater pollution to the bay should be removed. This may become a risk management decision more appropriately discussed in the FS in context with remedial options and economics (cost benefit).

5. This document repeatedly describes that potential exposure pathways to terrestrial ecological resources do not exist because an area is paved (i.e. the pathway is eliminated). However, are these areas always going to be paved? What is/are the potential long term development probabilities for these sites? Board staff believe that the Navy should still identify potential pathways and risks for different ecological exposure scenarios. This may help meet your future FOST requirements.
6. Please describe who will be implementing the Petroleum Corrective Action Plan and when will it be completed.

Concur:

 Ms. Shin Roei Lee

Sincerely,



Richard Hiett
Groundwater and Waste Containment
Division