



Cal/EPA

Department of  
Toxic Substances  
Control

700 Heinz Avenue  
Suite 200  
Berkeley, CA  
94710-2737

August 15, 1997

N00217.003525  
HUNTERS POINT  
SSIC NO. 5090.3



*Pete Wilson*  
Governor

*James M. Strock*  
Secretary for  
Environmental  
Protection

Commanding Officer  
Engineering Field Activity, West  
Attention: Code 18, Mr. Richard Powell (1832)  
Naval Facilities Engineering Command  
900 Commodore Drive  
San Bruno, California 94066-5006

**RE: Parcel E Draft Remedial Investigation Report, Hunters Point  
Shipyard, San Francisco, California**

Dear Mr. Powell:

The Department of Toxic Substances Control and Regional Water Quality Control Board, San Francisco Bay Region have completed our review of the above-mentioned document and are providing the following comments for your considerations. Additional comments for sections related to radiation are still under review by Department of Health Services and will be forth coming shortly.

General Comments:

1. This report, in general, provides detailed investigation results. We appreciate the efforts to put together the tables and figures that make the review easier. However, the interpretation and rationale behind the interpretation of the results should be strengthened.
2. Since the text has determined the groundwater has no beneficial use, it is not clear why were Tap Water PRG and MCL included in the screening criteria?
3. It is not clear why PRG for cobalt, Thallium, and Tin were left out of soil screening criteria.
4. When discussing detected concentrations against screening criteria, instead of check against each individual criterion(i.e., tap water PRG, MCL, NAWQC, and HGAL) it seems that it would be less confusing if a set of most stringent numbers can be put together in table 4.0-1 and check the data against only one set of numbers.



Printed on Recycled Paper

5. The industrial use scenario is most likely to be the future use for this parcel, the figures and contours should concentrate more on this scenario rather than residential use scenario.
6. Please specify the data quality problems that have yielded data from several previous investigations unusable.
7. It is unclear when the text states the detected concentrations do not indicate a release to the environment for lack of apparent trend or contaminant sources, whether the concentration still enters the calculation for HHRA.

Specific Comments: (The text is organized in such away that same format is repeated for each IR site. To avoid repetitive comments, some comments are only stated when the issue is first encountered and are not repeated for all the sites.)

Page No.	Comments
4-2	Duplicate Samples (when defined as split sample), the detected concentration and SQL should be averaged only if they are within one order of magnitude.
4-4	Does the section "Preliminary Identification and Distribution of Affected Soil and Groundwater" means that this RI does not actually define the extent of contamination?
4-7	The use of 10ft as depth limit for Human Health Risk Assessment is not acceptable at this point. This issue is to be resolved along with Parcel B ROD.
4-42	Two organic constituents in soil were selected to demonstrate spatial distribution (Benzo(A)Pyrene and PCB) due to their frequency of detection. However, it seems Toluene, Benzo(B)fluoranthene and Chrysene have higher detection frequencies.
4-43	Fig 4.1-18 A & B show Benzo(A)Pyrene in isolated spots with concentration exceeds industrial PRG (260ppb), but the extent of the contour was based on a lot of ND with detection limits that are higher than 260ppb. So a lot of isolated spots may be some much larger plumes and could be interconnected.
4-44	Fig 4.1-19 A & B for Aroclor-1260 (PCB) is the same as above,

contours were drawn based on a lot of ND that have very high detection limits. This may be a data gap if the extent of contamination is to be defined by Industrial PRG. (340ppb) in soil. Maps for Sample between 2-10 ft (4.1-19B) have inconsistent units (ug/kg vs. mg/kg).

- 4-46 Table referencing Figure No. are incorrect. 4.1-20A, B is for diesel.
- 4-48 Contrary to the text, the concentration of diesel is shown generally increases with depth in fig 4.1-20A & B.
- 4-48 There are not nearly as many sample points for motor oil as in other constituents. Was some NDs deleted from the map?
- 4-50 In general, metals in Groundwater show either no trend or widespread contamination with detection limits varies in wide ranges. Since all previous phase data were purged from data set, why does this phase of investigation still have wide range levels of detection limits?
- 4-58 TPH-gasoline is on Fig 4.1-31 while TPH-Diesel is on fig 4.1-30. There are NDs with detection limit at 500ppb located outside of 100 ppb contours.
- 4-307 The location of grab sample for VOCs should be identified.
- 4-338 The text is confusing when it states that only A-aquifer is evaluated for HHRA while B-aquifer and bedrock water bearing zone is not because they have beneficial uses. It sounds like A-aquifer had beneficial uses and went through HHRA. In fact, A-aquifer is only evaluated for VOCs in indoor air as the exposure pathway.
- 4-349 Third paragraph, " The total surfacial extent of dioxins in soil in the area near Triple A site 19 has not been fully characterized....Additional sampling to better define this area may be conducted during FS..." RI is supposed to define the extent of contamination. Why wasn't the additional sampling conducted in RI?
- 4-350 Second paragraph," Arsenic...concentrations exceed their respective PRGs and HPALs. These metals were frequently detected at widespread locations...The distributions and concentrations of these metals exhibit no APPARENT trends or DISCERNIBLE PATTERNS. The presence of these metals may be

associated with the use of artificial fill materials at IR-02 Central"  
It should be noted that HPALs are considered to be the  
concentration levels that are associated with the artificial fill  
materials. Any concentration exceeds HPAL is considered as the  
result of environmental releases.

If you have any questions, Please contact me at (510) 540-3822.

Sincerely,



Chein Ping Kao, P.E.  
Senior Hazardous Substance Engineer  
Office of Military Facilities

Enclosure(s)

CC: Ms. Sheryl Lauth  
US EPA Region IX  
75 Hawthorne Street  
San Francisco, California 94105-3901

Mr. Richard Hiatt  
California Regional Water Quality Control Board  
San Francisco Bay Region  
2101 Webster Street, Suite 500  
Oakland, California 94612



**Cal/EPA**

Department of  
Toxic Substances  
Control

400 P Street,  
4th Floor  
P.O. Box 806  
Sacramento, CA  
95812-0806



Pete Wilson  
Governor

James M. Strock  
Secretary for  
Environmental  
Protection

## MEMORANDUM

**TO:** Chein Kao, Project Manager  
Office of Military Facilities, Berkeley  
700 Heinz, Building F, Second Floor  
Berkeley, CA 94710

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

**DATE:** August 7, 1997

**SUBJECT:** HUNTERS POINT ANNEX DRAFT PARCEL E REMEDIAL  
INVESTIGATION REPORT - HUMAN HEALTH RISK ASSESSMENT  
[PCA 14740 SITE 200050-47 H:47]

### Background

We have reviewed portions of the document titled *Parcel E Remedial Investigation Draft Report, Hunters Point Shipyard, San Francisco, California* dated May 29, 1997 and prepared by PRC Environmental Management, Inc. of San Francisco, California, Uribe & Associates of Oakland, California and Levine-Fricke-Recon of Emeryville, California. The complete Remedial Investigation (RI) Report contains 27 volumes. The portions reviewed were the executive summary, Volume II and Appendix N the human health risk assessment. This review is in response to your written work request dated July 1, 1997.

Hunters Point Shipyard (HPS) is situated on a promontory in the southwestern portion of San Francisco Bay. HPS 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 HPS is approximately 497 acres on land of which 135 acres are contained in Parcel E.

### General Comments

Fish or shell fish ingestion pathways are not included in this human health risk assessment. This pathway has been excluded from the human health risk assessment of parcels adjacent to San Francisco Bay with the understanding that it would be included in the base wide human health risk assessment. With the finalization of the Parcel E RI Report, the base wide human health risk assessment will be the last opportunity to address consumption of fish and/or shell fish. It is our opinion that exclusion of fish and/or shell fish ingestion pathways would make the human health risk assessment for HPS incomplete. We have repeatedly stated this belief to the Navy and Navy contractors. Navy representatives have stated their position that the fish and shell fish ingestion pathway would not influence the selection of remedial alternatives at HPS. While we agree that contaminants in fish tissue collected from the area surrounding HPS



Chen Kao  
August 7, 1997  
Page 2

cannot be attributed solely to HPS, selection of remedial alternatives is not the sole purpose of a human health risk assessment. Risk communication, in addition to remedial alternative selection, is one of the purposes of a RI human health risk assessment under the Comprehensive Environmental Restoration, Compensation and Liability Act (CERCLA). There are studies which document extensive fishing in San Francisco Bay (Cohen, undated, Save San Francisco Bay Report). There is anecdotal information from public interest groups that fishing and possibly collection of shell fish occurs in the area adjacent to, or at, HPS. It is therefore appropriate that the incremental risk and hazard associated with consumption of fish and/or shellfish caught or collected in the area of HPS be quantified. This should not be construed to mean that HERD would necessarily recommend extensive or expensive remediation of the HPS sediments based solely on fish or shell fish should consumption of fish or shellfish elevate the incremental cancer risk above the *de minimis* level.

#### Specific Comments

1. The estimates of incremental cancer risk and non-cancer hazard made in the Executive Summary (pages ES-1 through ES-98) were checked at random against the risk characterization (Section 4.0, Volumes II and III) and the human health risk assessment (Appendix N) and found to agree.

#### Specific Comments - Appendix N - Human Health Risk Assessment

2. Concentrations present in California soils (Bradford, et al., 1996), rather than soils throughout the United States should be used when discussing the Hunters Point soil concentrations of essential human micro-nutrients (Section 2.2.1, page N-2-4).
3. We do not believe it is appropriate to test the small chromium VI data set for outliers (Attachment N-D, page N-D-3). Statistical tests for outliers are meant to test whether the extreme samples from a single population exceed a statistical definition of a reasonable range. There is no way to determine whether a single chromium VI sample from IR-38 is or is not representative of the chromium VI concentrations at IR-38. The maximum soil chromium VI ratio (2.2 percent) should be used to develop the surrogate chromium VI concentrations for sites which were not analyzed for chromium VI (Section 3.2.4.1, page N-3-19)..
4. The U.S. EPA slope factors used for aroclor mixtures of polychlorinated biphenyls (PCBs) (Section 4.2, page N-4-4) appear to be a draft document as indicated by the title 'Proposed Guidelines for Carcinogenic Risk Assessment'. If this document is a draft the text of this section should so indicate.
5. Lead exposure is monitored in terms of blood lead levels. The blood lead concentration is usually described in terms of micrograms per deciliter of blood ( $\mu\text{g}/\text{dl}$ ). The Greek letter phi ( $\Phi$ ) is used throughout this human health risk assessment. Please use the correct units.
6. There does not appear to be any presentation of risk or hazard associated with exposure to both soil and groundwater. Please provide an additional presentation of 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.
7. 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

Chein Kao  
August 7, 1997  
Page 3

chemical-specific risk and hazard is presented in attachment N-G and N-H . Please furnish the exposure calculation spread sheets for review.

### Conclusions

In our opinion, ingestion of fish and/or shellfish must be evaluated in the base-wide human health risk assessment to provide a complete evaluation of incremental cancer risk and non-cancer hazard.

We accept the recommendations that all Parcel E IR sites except IR-38, IR-40, IR-47, IR-50, IR-51 and IR-74 be carried forward to the Parcel E feasibility study.

Please supply future versions of this risk assessment and risk assessments of other Hunters Point parcels in electronic format to facilitate review and conserve paper. This request was made in the HERD memorandum dated August 12, 1996, reviewing the Parcel D RI Report, but no electronic files were submitted with the Parcel E draft RI Report.

### References

Bradford, G. R., A. C. Chang, A. L. Page, D. Bakhtar, J. A. Frampton and H Wright. 1996. Background Concentrations of Trace and Major Elements in California Soils. University of California Riverside, Division of Agriculture and Natural Resources. 52pp.

HERD Internal Reviewer: Gerald Chernoff, Ph.D.  
Staff Toxicologist  
HERD

cc: Michael J. Wade, Ph.D., DABT, Senior Toxicologist, OMF Liaison, HERD

Sheryl Lauth  
U.S. EPA Region IX  
Superfund Technical Assistance  
75 Hawthorne (H-8-4)  
San Francisco, CA 94105

Laurie Sullivan  
NOAA Coastal Resources Coordinator  
U.S. EPA Region IX  
75 Hawthorne (H-9-5)  
San Francisco, CA 94105

Patty Velez  
California Department of Fish and Game  
20 Lower Ragsdale, Suite 100  
Monterey, CA 93940

James Haas  
U.S. Fish and Wildlife  
Environmental Contaminants Section  
3310 El Camino Avenue, Suite 130  
Sacramento, CA 95821

**Chein Kao**  
**August 7, 1997**  
**Page 4**

**Richard Hiett**  
**San Francisco Regional Water Quality Control Board**  
**2101 Webster Street, Suite 500**  
**Oakland, CA 94612**

**(818) 551-2853 Voice**  
**(818) 551-2841 Facsimile**

**c:\jimp\risk\hunters\hpa\_eeco.doc\h:47**



Cal/EPA

Department of  
Toxic Substances  
Control

400 P Street,  
4th Floor  
P.O. Box 806  
Sacramento, CA  
95812-0806

**MEMORANDUM**

Pete Wilson  
Governor

James M. Strock  
Secretary for  
Environmental  
Protection

**TO:** Chein Kao, Project Manager  
Office of Military Facilities, Berkeley  
700 Heinz, Building F, Second Floor  
Berkeley, CA 94710

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

**DATE:** August 4, 1997

**SUBJECT:** HUNTERS POINT ANNEX DRAFT PARCEL E REMEDIAL  
INVESTIGATION REPORT - ECOLOGICAL ASSESSMENT  
[PCA 14740 SITE 200050-47 H:32]

Background

We have reviewed portions of the document titled *Parcel E Remedial Investigation Draft Report, Hunters Point Shipyard, San Francisco, California* dated May 29, 1997 prepared by PRC Environmental Management, Inc. of San Francisco, California, Uribe & Associates of Oakland, California and Levinc-Fricke-Recon of Emeryville, California. The complete Remedial Investigation (RI) Report contains 27 volumes. The portions reviewed were Appendix F, the ecological risk assessment. This review is in response to your written work request dated July 1, 1997.

Hunters Point Shipyard (HPS) is situated on a promontory in the southwestern portion of San Francisco Bay. HPS 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 HPS is approximately 497 acres on land of which 135 acres are contained in Parcel E.

General Comments

The ecological risk assessment contains several calculations and methodological steps which we find objectionable and unreasonable. These are:

Chein Kao  
August 4, 1997  
Page 2

1. The calculation of dose for the deer mouse and the kestrel, in  $\text{mg}_{\text{chemical}}/\text{kg}_{\text{body weight}}/\text{day}$ , contains a trophic transfer coefficient (TTC). The stated purpose of this TTC is to account for '...gastrointestinal absorption, metabolism, dietary efficiencies, and depuration.' (Section 5.4.5, page F-36). The majority of the discussion in this section centers on gastrointestinal absorption. Use of a TTC to account for gastrointestinal absorption, converts the calculated dose into an absorbed dose rather than an administered dose. All the toxicity reference values (TRVs) used to assess the potential ecological problems associated with a calculated dose are based on administered, not absorbed, dose. Use of the TTC in calculating the dose therefore makes the comparison of dose to TRV in the hazard quotient (HQ) a comparison of absorbed dose to an effect or no effect at an administered dose and is incorrect. Remove the TTC from the calculation of dose for the deer mouse and kestrel.
2. An interesting attempt is made to estimate potential deer mouse tissue concentrations, as part of the kestrel intake calculation, based on retention of all the ingested contaminant for both 1 day or 180 days (Section 5.4.4, page F-34). This methodology is proposed and discussed without a single reference regarding the source of the methodology or the efficacy of this methodology in bracketing the actual deer mouse tissue concentration. The difficulties encountered when using this methodology are not outlined until the uncertainty section where the fact that vertebrate tissue concentrations based on the high exposure period exceeded unity, or one million  $\text{mg}/\text{kg}$  (Section 8.1.4.5, page F-245), and were 'adjusted' to 100 percent, or one million  $\text{mg}$  per  $\text{kg}$ , for copper, lead manganese, and zinc. Distinct from the acceptability of the method, which must be fully documented, is the issue of the range of exposure periods chosen. Even if this method is determined to be acceptable, in our opinion choice of widely-divergent exposure periods for the low and high estimates of deer mouse exposure do not aid the predictive assessment and do nothing but make more divergent the estimates of high and low dose for the kestrel. The range of projected ecological hazard from the low estimate to the high estimate is made so broad as to be useless to the risk manager. Estimates of the deer mouse tissue concentration using this methodology are highly uncertain and constitute an unacceptable data gap. This data gap should be addressed by collecting and analyzing small rodents from Parcel E sites to determine the tissue concentrations from Parcel E sites with a range of contaminants and contaminant concentrations.
3. Site use factors (SUFs), which attempt to factor the possible intake from within a site boundary according to the home range of the receptor, are commonly used in ecological risk assessments. The site-specific use of the SUF is correctly applied in this ecological risk assessment. However, there is no attempt to consider the potential intake from multiple sites for the kestrel which has the largest home range and therefore the lowest SUF of the two vertebrate species evaluated. Potential exposure of the kestrel from multiple sites in Parcel E must be evaluated. The most conservative (health protective) approach would be to assess the potential kestrel dose associated with consumption of prey items from the Parcel E sites with the maximum soil concentrations for both the low estimate of home range and the high estimate of high range.

#### Specific Comments

1. Non-DDT pesticides were eliminated as contaminants of concern (COCs) in Parcel E because they were detected in less than 10 percent of the samples (Section 4.1, page F-11). No basis is provided for this criterion. A five percent criterion for frequency of detection, sometimes employed in selecting COCs for human health risk assessments, is listed in Risk Assessment Guidance for Superfund (RAGS) (EPA, 1989) only as an example of criterion which may be used with the approval of the project manager to reduce the number of contaminants in situations where the number of contaminants is excessive. This criterion cannot be implemented as the solitary screen of COCs. Once it has been determined that the number on COCs is excessive additional criteria, such as toxicity, potential for bioaccumulation,

Chein Kao  
August 4, 1997  
Page 3

concentration and aerial distribution must be considered concurrently. Please supply this information for the non-DDT pesticides in Parcel E.

2. HERD routinely accepts removal of essential nutrients at non-toxic concentrations from ecological risk assessments. We are unwilling to accept language stating that COCs were selected based on metal concentrations '...thought to be potentially toxic at site concentrations.' (Section 4.2, page F-12). The subsequent sentence reading 'Metals such as aluminum, calcium, iron and magnesium were not evaluated because they were considered to be essential nutrients' should be incorporated into the second criterion for selection of COCs so that the vague language regarding potentially toxic at site concentrations is removed.
3. Tin is excluded as a COC because it was only detected in three samples at IR-01/21 (Section 4.2, page F-12). Site IR-01/21 is the industrial landfill. If there is a potential that the tin detected is a reflection of the presence of organo-tin compounds, tin should be retained as a COC. Please include some discussion of this point in the text should it appear that the tin detected cannot be organo-tin. Organo-tin compounds have been detected in pore water exceeding the regulatory standards in Parcel F sediments.
4. The 10 percent detection criterion was applied to organic compounds (Section 4.2, page F-12) in selecting organic COCs. Please see specific comment number 1 above regarding the requirements to implement this criterion.
5. Please provide a reference for grouping polycyclic aromatic hydrocarbons (PAHs) into low molecular weight (LMW) PAHs and high molecular weight (HMW) PAHs to assess potential ecological hazard (Section 4.2, page F-13).
6. Endrin aldehyde was eliminated as an organic COC (Section 4.2, page F-13). Do not eliminate endrin aldehyde for Parcel E sites where endrin was detected.
7. The fact that ethylbenzene, toluene, trichloroethene (TCE), xylene may not have 'significant bioaccumulation potential' (Section 4.2, page F-13) is insufficient to remove these potential COCs from the ecological risk assessment. We agree that petroleum hydrocarbons may be eliminated as a class as long as the toxicity of petroleum is considered by assessing benzene, ethylbenzene, toluene and xylene (BTEX).
8. Please supply the reference for the toxicity equivalency factors (TEFs) used to assess the ecological hazard of polychlorinated dibenzo dioxins (PCDD) and polychlorinated dibenzo furans (PCDF) (Section 4.2, page F-14).
9. Please amend the sentence regarding allometric conversion of TRVs to refer to representative species rather than assessment endpoints (Section 5.0, page F-16). It would be impossible to allometrically convert a TRV without a specific body weight.
10. There is a hypothesis regarding dermal exposure for ecological receptors with fur or feathers which is diametrically opposed to the argument presented for not considering dermal exposure (Section 5.0, page F-17). It is that the fur or feathers hold soil near the skin for extended periods and that the follicles associated with fur or feathers provide preferential transport pathways for soil contaminants in contact with the skin. Both these factors would enhance dermal exposure rather than hinder it. Please note the differing theories on dermal exposure in the text.
11. The description of potentially complete exposure pathways is incorrect (Section 5.0, page F-17). The discussion of dermal and inhalation exposure in the following sentences make it

Chein Kao  
August 4, 1997  
Page 4

clear that the two exposure pathways enumerated are the potentially complete exposure pathways which are evaluated, not the complete set of potentially complete exposure pathways. Please amend the sentence to refer the two enumerated exposure pathways as 'Potentially complete exposure pathways which will be evaluated include ...'.

12. Excluding rare, threatened or endangered species, assessment endpoints, by definition, refer to high level functions of the biological community being evaluated. There can, therefore, be no 'assessment endpoint species' (Section 5.1, page F-17). The deer mouse and kestrel are species representative of the measurement endpoints selected to evaluate the Parcel E assessment endpoints. Please amend the text.
13. Please provide additional justification for excluding plants and lower trophic levels from this ecological risk assessment (Section 5.1, page F-18). DTSC guidance (DTSC, 1996) for ecological risk assessments specifically includes plants and the decomposer community as potential measurement endpoints. Exclusion of soil invertebrates is particularly puzzling as the summer diet of the kestrel is listed as earthworms (Section 5.1.2, page F-18) and large insects (Section 5.2.2.2, page F-21).
14. Use of default biotransfer factors (BTF) for DDT and PCB transfer from soil to plants (Section 5.4.2, page F-32) introduce a great deal of uncertainty and indicate a serious data gap when one of the two representative species, the kestrel, is extremely sensitive to the adverse effects of DDT. This data gap should be addressed by measuring DDT and PCB concentrations in co-located soil and plant samples for those Parcel E sites where DDT or PCBs are COCs.
15. Please see general comment number 2 for comments on the method used to develop exposure point concentrations in vertebrate tissue (Section 5.4.4, page F-34). The high deer mouse tissue concentration using this methodology sets an upper limit of exposure based on deer mouse longevity and winter mortality. An extreme increase in deer mouse mortality in the mild winters of San Francisco would seem unlikely compared to winter conditions in other parts of the United States.
16. Please see general comment number 1 for comments on the use of trophic transfer coefficients (Section 5.4.5, page F-36 and Section 5.5, page F-37).
17. Please amend the sentence regarding allometric conversion (Section 6.7, page F-56) to refer to deriving toxicity reference values (TRVs) for the representative species, rather than 'deriving assessment endpoints'. Assessment endpoints have nothing to do with allometric conversions.
18. We agree that an assumption of similar modes of toxic action is appropriate for PCDDs and PCDFs (Section 6.8.14.1, page F-96). However, please provide a reference for the Toxicity Equivalency Factors (TEFs) used for PCDDs and PCDFs for non-carcinogenic effects on ecological receptors.
19. We agree that categorization of sites (Section 7.1.1, page F-152) and COCs into those of: 1) high ecological hazard; 2) of some intermediate, but unknown ecological hazard; and, 3) those of low ecological hazard has obvious benefits. However, all of the sites evaluated in this ecological risk assessment are ranked in the middle group of intermediate, but unknown ecological hazard. This site categorization is of little use to the risk manager in determining which Parcel E sites to address first. Validation studies should be performed at selected Parcel E sites to more carefully quantitate the potential ecological hazard.

Chein Kao  
August 4, 1997  
Page 5

20. Please label the tables containing the COPCs, soil exposure point concentration (EPC), Hunters Point Ambient Level (HPAL) and representative species hazard quotients to indicate the associated site. These tables begin on page F-156. There is currently no heading associated with the tables.
21. Please provide the toxicological basis for summarizing risk only for those category 2 inorganic contaminants which exceed the HPALs by at least 5 percent (Section 7.10.3, page F-207). The adverse effects caused by these chemicals, which are considered in the ecological risk assessment, are threshold effects which could occur at 1 percent above the HPALs.
22. The discussion of nickel at site IR-39 (Section 7.12.3, page F-219) is followed by a statement that an investigation of the distribution and bioavailability of lead would provide additional insight. Please correct the text to refer to the distribution and bioavailability of nickel at Site IR-39.
23. It is not surprising that inhalation exposure is not expected to be significant 'given the COPCs at Parcel E' (Section 8.1.2, page F-238). Volatile organic compounds (VOCs) were eliminated in the selection of COPCs at the beginning of the assessment (Section 4.1, page F-11). We suggest that the phrase included in quotes above be removed.
24. Three months is equated to 180 days (Section 8.1.4.5, page F-245). The high exposure period used was actually 6 months or 180 days.
25. Please supply the justification for concluding that the '...average life span of small mammals at Parcel E prior to predation is probably closer to 100 or 120 days rather than 180 days' (Section 8.1.4.5, page F-245).
26. An estimate of the home range for the deer mouse is stated in acres. An inappropriate conversion from hectares to acres is applied making the home range estimate larger by a factor of 2.47 (Table F.5-4, page 1, 7<sup>th</sup> reference for home range). Please correct the table.
27. Arithmetic calculations contained in the tables (Tables F.7-1 through F.7-82) were checked at random and found to be correct.

### Conclusions

We strongly object to the method of developing vertebrate prey item tissue concentrations and the use of trophic transfer coefficients as applied in this assessment. Appropriate response to the comments raised above should remove these concerns.

Rather than expend resources altering the predictive ecological risk assessment, validation studies should be performed to address some of the uncertainty in the assessment and hopefully provide a more useful categorization of Parcel E sites. Parcel E site IR-02 Northwest is ranked a category 2 site, of intermediate, but uncertain ecological hazard. Site IR-04, the scrap yard, is similarly categorized. EPCs for site IR-02 Northwest, the Bay Fill Area, are 94.2 mg/kg antimony, 2,880 mg/kg copper, 4,810 mg/kg lead, 14.2 mg/kg mercury, 457 mg/kg nickel, 5,870 mg/kg zinc, 6 mg/kg HMW PAHs, 5 mg/kg LMW PAHs and 2 mg/kg total PCBs. Site IR-04, the scrap yard, is another site with elevated soil concentrations of numerous chemicals. EPCs at IR-04 included 70.3 mg/kg antimony, 8,730 mg/kg copper, 2,050 mg/kg lead, 11.7 mg/kg mercury, 834 mg/kg nickel, 4.5 mg/kg selenium, 5.3 mg/kg thallium, 3,160 mg/kg zinc, 4 mg/kg HMW PAHs, 3 mg/kg LMW PAHs and 31 mg/kg total PCBs. If sites with soil exposure point concentrations such as these two exhibit do not present an ecological threat to terrestrial receptors, it is doubtful that any other Parcel E site would pose a potential ecological hazard. We recommend that validation

Cheln Kao  
August 4, 1997  
Page 6

studies be performed at site IR-02 Northwest and IR-04 to decrease the uncertainty associated with the current level of analysis. The work plan for these validation studies should be developed in consultation with herd.

Lead in soil is a main contributor to potential ecological hazard at the majority of sites. Validation studies across several sites should focus on lead and several other contaminants to decrease the uncertainty associated with the current level of analysis.

HERD Internal Reviewer: Gerald Chernoff, Ph.D.  
Staff Toxicologist  
HERD

cc: Michael J. Wade, Ph.D., DABT, Senior Toxicologist, OMF Liaison, HERD

Sheryl Lauth  
U.S. EPA Region IX  
Superfund Technical Assistance  
75 Hawthorne (H-8-4)  
San Francisco, CA 94105

Laurie Sullivan  
NOAA Coastal Resources Coordinator  
U.S. EPA Region IX  
75 Hawthorne (H-9-5)  
San Francisco, CA 94105

Patty Velez  
California Department of Fish and Game  
20 Lower Ragsdale, Suite 100  
Monterey, CA 93940

James Haas  
U.S. Fish and Wildlife  
Environmental Contaminants Section  
3310 El Camino Avenue, Suite 130  
Sacramento, CA 95821

Richard Hiatt  
San Francisco Regional Water Quality Control Board  
2101 Webster Street, Suite 500  
Oakland, CA 94612

(818) 551-2853 Voice  
(818) 551-2841 Facsimile

c:\jimplrisk\hunters\hpa\_eeco.doc\h:32



Pete Wilson  
Governor

**San Francisco Bay  
Regional Water Quality Control Board**

2101 Webster Street Suite 500  
Oakland, CA 94612  
(510) 286-1255  
FAX (510) 286-1380

July 8, 1997

VIA Facsimile  
510.849.5285  
Mr. Chein Kao  
DTSC, Office of Military Affairs  
700 Heinz Avenue  
Berkeley, CA 94710

RE: Hunter's Point Parcel E Draft RI

Dear Mr. Kao:

Regional Board staff have reviewed sections IR1/21, IR02NW, IR02C, IR04, IR05, IR12, IR13, IR52, IR56, IR75, and IR76 of the aforementioned document for water quality concerns and have attached general and specific comments.

**General Comments:**

Overall this is a very good document with a tremendous amount of detail and information. However, Board staff do have concerns regarding the screening criteria used for wetlands within Parcel E and the use of the Parcel F FS to fill data gaps and address pollution within the tidal influence area.

Regional Board staff understand that Parcel E will be developed as open space according to the City and County of San Francisco's re-use plan. This document describes human health based exposure levels for sites within Parcel E based on recreational and residential scenarios. Additionally, NAWQC and TRVs were used as screening values to determine potential impacts to aquatic and terrestrial receptors respectively. It is unclear how these values alone would be adequate to evaluate areas of existing wetlands in Parcel E.

## HPA Draft RI

For example, of the 45.3 acres within the "extended ecological site boundary for IR1/21", approximately four of these acres are described as seasonal freshwater, saline emergent or inter tidal wetland. These areas appear in figure 3.5-1. How do NAWQC and TRVs for two species appropriately describe screening levels for these wetland areas? It would appear that additional screening values are necessary.

Inter tidal and seasonal wetland areas should use NAWQC for determining potential groundwater impacts to these habitats. Soil (sediment) levels in these areas should be evaluated with a tiered approach based on toxicity and appropriate action levels similar to the Phase 1B (i.e. 1995/6 ERLs or ERMs).

The California Enclosed Bays and Estuaries Plan, that was used to determine screening levels for the IR1/21 removal action (Draft Final RA Table 6, page 39), would be appropriate values to screen potential groundwater impacts to saltwater receptors where NAWQC are not available. Further, for screening freshwater wetlands, the California Inland Surface Waters Plan (Table 1, Page 4) would be appropriate. The selected TRVs could potentially be used for areas outside of the wetlands areas within the extended ecological site boundaries - the terrestrial portion of the site.

The Recommendations Section (5.7) in this report describes that the Parcel F FS will evaluate exceedences of National Ambient Water Quality Criteria (NAWQC) within the tidal influence areas of Parcel E. Will the Parcel F FS also evaluate and make recommendations for the soils within this footprint? When and Where (which report(s)) will the data gaps along the shoreline be addressed? Areas should be clearly demarcated within each IR site for Parcel E, and clearly indicate which document (Parcel E FS, RI or Parcel F FS) will contain what information.

## Specific Comments:

1. Page 4-3, Screening criteria: The Enclosed Bays and Estuaries Plan or California Inland Surface Waters Plan numbers should be used as screening values if NAWQC are not available for wetland areas or groundwater within the tidal

## HPA Draft RI

influence area. This approach would be consistent with the Removal actions at IR1/21.

2. Page 4-67: "The only identified beneficial use ...preservation of saltwater aquatic life." This statement appears inconsistent with the descriptions of freshwater, saltwater and inter tidal wetland described within this report. These wetlands are considered waters of the state. Each water body would then have corresponding beneficial uses. For additional information on beneficial use definitions see: San Francisco Bay Basin Plan 1995, Region 2, Chapter 2, pages 2-1 to 2-30.

3. Page 4-91, Inter tidal and Subtidal sediment Characterization, Fourth paragraph: Transects samples indicate a pollution gradient offshore of IR1/21.

4. Page 4-141: The NAWQC for TCE is 2000 ug/L (acute). If we use the same acute/chronic approach as in the Parcel C FS, this would result in a chronic value of approximately 200 ug/L.

5. Please explain what an "uncertain, but not a significant immediate risk is?" This phrase is used throughout the document. How was ecological risk included in the screening and selection process for individual IR sites?

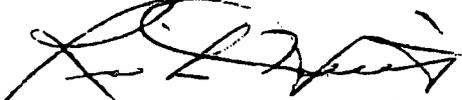
6. Section 5.1, Site Summaries, Page 5-7 describes COPCs that define an "uncertain but not an immediate risk". Section 5.5 describes the summary of the site conceptual model which includes contaminant exposure pathways and receptors. What is not clear is how these contaminants, pathways and receptors were evaluated by Parcel and by habitat type. It appears additional screening values are required (see: general comments). When would ecological risk carry a site into the FS? Only category three sites?

7. Section 5.7 Recommendation: This section describes detected concentrations exceeding NAWQC values in the Tidal influence Area will be evaluated in the Parcel F FS (groundwater). Will Parcel F address soils within the Tidal Influence Area as well? What about shoreline sediments and soils and saline emergent wetlands within these areas?

HPA Draft RI

For comments or questions regarding the contents of this letter please contact the undersigned at (510)286-4359 or Ms. Shin Roei Lee at (510)286-0699.

Sincerely,

A handwritten signature in black ink, appearing to read "Richard Hiatt", written over a horizontal line.

Richard Hiatt, AWRCE

Groundwater and Waste  
Containment Division