

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

REGION 2

10 HEINZ AVE., SUITE 200
BERKELEY, CA 94710-2737RECEIVED
IN CODE 181July 31 , 1995 '95
AUG -3 P4:10

Engineering Field Activity, West
Attn: Mr. William Radzevich [Code 1823.2]
900 Commodore Drive
San Bruno, California 94066-5006

Dear Mr. Radzevich:

**PARCEL A DRAFT REMEDIAL INVESTIGATION (RI) REPORT HUNTERS POINT
ANNEX, SAN FRANCISCO**

The Department of Toxic Substances Control (Department) has reviewed the Parcel A RI report. The following enclosed comments are forwarded for your consideration.

It is important to state why the area of Parcel A was reduced to 88 acres. It is not sufficient to only inform the reader of the present area of Parcel A. In all the previous reports, Parcel A had been reported to be 90 acres. Therefore, it is necessary to explain how the area was reduced to 88 acres. A thorough explanation is necessary.

Further, as we have requested, the Parcel A RI report needs to discuss conditions and situations at sites and parcels adjacent to Parcel A. This section will provide information on the possibility of any cross contamination. Soil and groundwater contamination at IR sites in adjacent parcels as well as the utilities need to be captured in that section. This will enable the interested parties to get a picture of Parcel A within the context of Hunters Point Annex. Additionally, we requested areas close to Parcel E be evaluated for any possible cross contamination onto Parcel A. It is not clear if that evaluation was ever done.

The Department is not able to examine the accuracy of the ambient level concentrations provided in the text because no such report has been submitted. The RI report erroneously implies that the information has been available to parties for review and approval. The "Calculation of Hunters Point Ambient Levels" report has not been submitted to us and thus should be deleted from the text as well as the references in the RI report. It is misleading to include such a reference in the report when it is not available to agencies.



Mr. Radzevich
July 31, 1995
Page Two

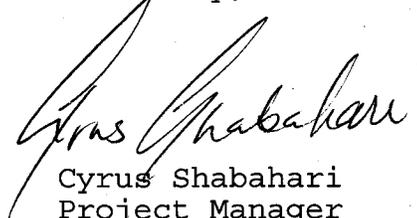
The majority of Appendix D is a boiler plate with a small portion being related to Parcel A. Though it provides useful information, it lacks a critical link to particulars at Parcel A. The use of boiler plate information does not assist the reader in understanding issues at Parcel A. The section of "fate and transfer" must relate to geology, hydrogeology and chemicals left in place at Parcel A to be beneficial. In the absence of any linkage to Parcel A, it simply belongs to a glossary section.

During the Site Inspection activities, large volumes of soil were excavated and confirmation samples were taken to evaluate the residuals. The RI report needs to provide a clear description of the events. Without fully understanding the context of past investigations, excavation and disposal of contaminated soils, when focusing mainly on groundwater seems confusing. Soil contamination seems to have been the cause for groundwater investigation.

1. Table 1-1., it is not clear why this table contains information on the entire installation. Please include information only on Parcel A.
2. Table 5-1, it is inaccurate to state that the "Water Board approved the designation of groundwater in Parcel A bedrock to be a non-drinking water source". For clarification, please refer to Appendix J and see enclosed comments from the Regional Water Board.

Should you have any questions regarding this letter and would like to seek clarification, please call me at (510) 540-3821.

Sincerely,



Cyrus Shabahari
Project Manager
Office of Military Facilities

Enclosures

cc: Please See Next Page

Mr. Radzevich
July 31, 1995
Page Three

US EPA
Region IX
Attn: Claire Trombadore
Mail Code 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

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

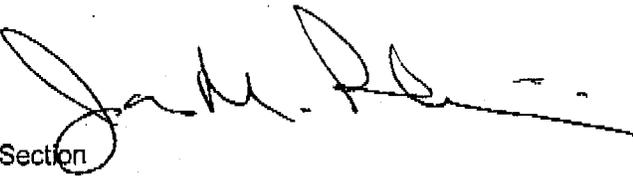
400 P STREET, 4TH FLOOR
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(916) 323-3734 Voice
(916) 327-2509 Facsimile

MEMORANDUM

TO: Cyrus Shabahari, Project Manager
Site Mitigation Branch, Region 2
700 Heinz, Building F, Second Floor
Berkeley, CA 94710

FROM: James M. Polisini, Ph.D.
Staff Toxicologist
Office of Scientific Affairs
Human and Ecological Risk Section 

DATE: July 28, 1995

SUBJECT: HUNTERS POINT ANNEX PARCEL A DRAFT RI/FS
[PCA 14740 SITE 200050-45 OC 2:16]

Background

We have reviewed the document titled *Draft Parcel A Remedial Investigation/Feasibility Study Report*, dated June 30, 1995 and prepared by PRC Environmental Management, Inc. This document was received in our offices on July 11, 1995 and the review was made in response to your written work request.

General Comments

The summary of the human health risk assessment (Section 6) accurately reflects that contents of the human health risk assessment (Appendix E).

Specific Comments

Preliminary Remediation Goals (PRGs) are properly used to screen sites based on risk or hazard. Exclusion of contaminants of concern (COCs) from further consideration in risk or hazard calculations is an inappropriate use of PRGs. It appears that COCs may have been screened against PRGs for the Site Investigation (SI) sites: 'Concentrations that exceed the PRGs are qualitatively evaluated for potential hazard and risks' (Appendix E, Section 1.2, page E-2, 5th bullet item). If this statement is meant to indicate that the discussion in the text focuses on those COCs which exceed the PRGs this bullet item should be clarified.

In all discussions of the human health risk assessment for Hunters Point we have directed that risk and hazard be calculated based on (1) total concentrations and (2) an additional calculation of the risk and hazard due to 'ambient' metal concentrations or the site-related risk and hazard. Comparison of potential COCs with Hunters Point Ambient Levels (HPALs) and

exclusion of potential COCs which do not exceed HPALs (Section 2.1, page E-5) does not allow calculation of the risk and hazard due to total concentrations. The risk and hazard calculations contained in this document are the 'site-related' risk and hazard only. This method of presentation deprives the risk manager of a comparison with 'total' or 'ambient' risk and hazard. It also makes application of the risk management balancing criteria more difficult. Discussion of the risk and hazard results are reduced to conjecture regarding components such as weaknesses in the toxicological benchmarks for manganese (Section 3.8, page E-34) or unsupported statements regarding the ingestion rate of home grown produce (Section 4.4, page E-46).

Even given the criteria for selection of contaminants of concern (COCs) it is sometimes difficult to follow the evaluation of metals through the comparison with Hunters Point Ambient Levels (HPALs) to the risk assessment calculations. With site IR-59, for example, aluminum does not appear in the comparison with HPALs (Table E-5, page E-69), but enters into all the risk calculations (Table E-6, page E-70 through Table E-16, page E-80).

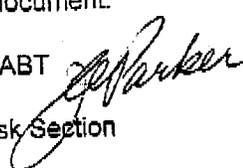
The statement made regarding regulatory direction on PRGs is not correct (Section 2.2, page E-5). The Department of Toxic Substances Control (DTSC) does not '...request that all facilities within Region IX use Region IX PRGs for reference concentrations in HHRAs...'. The DTSC prefers a multimedia risk assessment as outlined in the U.S. EPA and DTSC guidance, but is willing to accept the use of the Region IX PRG methodology for military facilities, with certain limitations, given the necessity to rapidly evaluate the human health risk at the numerous military sites under investigation. DTSC currently restricts use of the PRG methodology to military facilities. The limitations on use of the PRG methodology are contained in an October 28, 1994 memorandum from Mike Wade of the Office of Scientific Affairs. A copy of that memorandum is attached.

We agree with the conclusions that contaminants at Parcel A presents little ecological threat to terrestrial receptors, due mainly to a lack of habitat.

Conclusions

We believe that Parcel A at Hunters Point Annex may be transferred to the city of San Francisco without significant threat to human health, based on the Parcel A cleanups which have been performed to 'ambient' or health-based concentrations. The risk communication functions of this RI/FS would be better served by inclusion of the risk and hazard calculations based on total or 'ambient' concentrations in addition to the 'site-related' calculations presented. We recommend that those calculations be included in this document.

Reviewed by: Judith A. Parker, Ph.D., DABT
Senior Toxicologist
Human and Ecological Risk Section



Attachment.

cc: Michael J. Wade, Ph.D., DABT, Senior Toxicologist, OMF Liaison, HERS
Deborah J. Oudiz, Ph.D., Senior Toxicologist, Northern California Liaison, HERS

Dan Stralka, Regional Toxicologist
U.S. EPA Region IX
Superfund Technical Assistance
75 Hawthorne (H-8-4)
San Francisco, CA 94105

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

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M E M O R A N D U M

TO: Cyrus Shabahari
Region 2, Site Mitigation
700 Heinz Ave., Bldg. F, Second Floor
Berkeley, California 94710

FROM: James A. Frampton, Ph.D. (Soil Science) *James Frampton*
Research Program Specialist II (Soil)
Office of Scientific Affairs (OSA)
P. O. Box 806
Sacramento, California 95812-0806

DATE: July 31, 1995

SUBJECT: Hunters Point Annex - Preliminary comments on "Calculation of Hunters Point Ambient Levels (Draft)" (PCA 14740, Site Code 200050-45)

Per your request, I have reviewed the following document: "Calculation of Hunters Point Ambient Levels (Draft)" prepared by PRC Environmental, Inc. and dated April 11, 1995. This document provided PRC-calculated "Hunters Point ambient levels" or "HPALs" for 14 metals and five described soil types at Hunters Point Annex (HPA). In addition, PRC calculated regression equations for chromium (Cr), cobalt (Co), and nickel (Ni) on magnesium (Mg) using log-transformed data. The database used by PRC included 2870 sampling points. The database provided to DTSC for review had included 1351 sampling points.

Comment on terminology

There may be some confusion in the use of the term "ambient levels". As used by PRC in the document being reviewed, "HPAL" means the same as the upper tolerance limit (or upper confidence limit of a percentile of the distribution). However, if "ambient level" is meant to substitute for "background", then "ambient level" should more properly refer to the average concentration of substances in Hunters Point soil materials not resulting from site-specific contamination.

Comment on augmented database

PRC calculations were performed on a more extensive database than that upon which previous calculations were based. Since the additional data have not been reviewed by DTSC, caution must be used when reviewing the revised statistics. As a case in point,



average values for antimony (Sb) and cadmium (Cd) are much higher than would be expected for California soils. It had been pointed out in my January 19, 1994 memorandum that much of the Sb and Cd analytical data were suspect, and that only data from Site IR 10 seemed to have reasonable estimates for ambient levels of Sb and Cd. If additional data points are to be used to recalculate ambient distributional parameters and HPALs, then these additional data must be reviewed and approved by DTSC.

Comments on statistical approach for metals except Cr, Co, and Ni:

The methods used by PRC to calculate "ambient levels" are not those that were previously agreed to. The equation shown by PRC to calculate HPALs is that used to calculate the upper confidence limit of a percentile of a normally distributed population (or upper tolerance limit): $UL_{1-\alpha}(x_p) = \bar{x} + sK_{1-\alpha,p}$, where

\bar{x} and s are the mean and standard deviation and α is the significance level. The statistics \bar{x} and s were calculated from right-censored data sets using Cohen's MLE method where the censoring point is the same as the threshold limit concentration. Threshold limits were determined after observing data plotted on a cumulative probability plots. Metal concentrations above the threshold limit were determined to have a high probability of representing "contaminated" soils and thus were censored. Cohen's method assumes that the sampled population is normally distributed. If in fact the data sets are better represented as lognormally distributed populations as stated by PRC, then the assumption of normality has been violated.

Per previous agreement, upper tolerance limits (HPALs) were to be determined for all elements except lead (Pb), Cr, Co, and Ni using the order statistic method shown by Gilbert (1987, p. 141) and illustrated in the October 14th memorandum. Data from sites IR 1, 2, and 3 were to be excluded. For lead, copper, and zinc, data between 0 and 5 feet were also to be excluded. For Pb, the parametric upper tolerance limit was calculated from the log-transformed data using the formula shown in Gilbert (1987, p. 136) and the HPAL was determined by back-transforming this limit by taking its exponent as illustrated in the October 14th memorandum.

Comments on statistical approach for Cr, Co, and Ni:

Although PRC calculated regression equations for Cr, Co, and Ni on Mg as previously agreed to using log-transformed data, the approach used to calculate "ambient levels" or HPLAs is not as previously agreed to.

To determine HPALs for Cr, Co, and Ni at Hunters Point, PRC first applied linear regression to determine the regression equations for ln Co, ln Cr, and ln Ni on ln magnesium (ln Mg). This approach had been proposed and executed by DTSC for the earlier data set. PRC developed scatter plots overlaid with the calculated regression line and 90 percent confidence interval for the regression line. PRC did not provide information on how the confidence intervals were calculated. Regardless, the method PRC used to calculate "ambient levels" is not as previously agreed to. The method for calculating conditional "ambient levels", based upon the 95th percentile of the distribution of residuals, was provided in the October 14th memorandum.

Overall Recommendation

Because the additional analytical data upon which PRC developed revised "ambient levels" have not been submitted for review and accepted by DTSC, only those ambient levels proposed by PRC that are less than the DTSC calculated "IAL"s are acceptable at this time for the purpose of "hot spot" searches. For the same reason, only those regression equations and conditional "IAL"s for Cr, Co, and Ni from the October 14 memorandum are to be used. To repeat what was stated in the October 14 memorandum, EPA guidance (U.S. EPA, 1994) should be followed to determine whether the distributions of element concentrations in site soils are significantly different from background or "reference" soils.

If you have any questions, please call me at 916-327-2522

Reviewed by: James M. Polisini, Ph.D.
Staff Toxicologist
Office of Scientific Affairs (OSA) 

cc: Michael Wade, Ph.D. (Office of Military Facilities liaison)
Staff Toxicologist, OSA

References Cited

- Gilbert, R. O. 1987. Statistical methods for environmental pollution monitoring. Van Nostrand Reinhold, New York.
- U. S. Environmental Protection Agency. 1994. Statistical methods for evaluating the attainment of cleanup standards. Volume 3: Reference-based standards for soils and solid media. Office of Policy, Planning, and Evaluation. EPA 230-R-94-004.

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

July 27, 1995

File: 2169.6032(RCH)

RE: **DRAFT PARCEL A REMEDIAL INVESTIGATION/FEASIBILITY STUDY
REPORT - HUNTER'S POINT ANNEX (HPA)**

Dear Mr. Shabahari:

Regional Board Staff have reviewed the aforementioned report for water quality related issues and have the following comments:

(Navy's text appears in *italics*)

1. Parcel A IR Sites, Page ES-4, second paragraph, second sentence, "*Low levels of motor oil...during the investigation*". Please consider the following modification:

However, as previously mentioned on page ES-2, groundwater in Parcel A is not well characterized due to complex fracturing, shearing and weathering within the bedrock. Consequently, a notice will be placed on the deed indicating that these pollutants remain in Parcel A groundwater.

2. Pages ES-6, ES-10, 2-11 describe that the groundwater in Parcel A bedrock does not meet the *definition* of a drinking water source due to the State's single well yield criterion - which is correct. Table 5-1, (May 10, 1995), states that the "*RWQCB approved the designation of groundwater in Parcel A bedrock to be a non-drinking water source.*"

The word *designation* has a specific legal connotation. For consistency with the rest of the text Board staff suggest that this sentence read: RWQCB staff concurred that the groundwater in Parcel A bedrock, to 80 feet below ground surface, does not meet the definition of a drinking water source due to low well yields.

Draft RI/FS
Page 2 of 2

For 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 in a cursive style.

Richard Hiatt
Groundwater and Waste Containment
Division

STATE OF CALIFORNIA
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
DEPARTMENT OF TOXIC SUBSTANCES CONTROL
REGION 2
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EFA West
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