UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
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San Francisco, CA 94105

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ALAMEDA POINT
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July 12, 2004

Thomas Macchiarella
BRAC Operations, Code 06CA.TM
Department of the Navy, Southwest Division
Naval Facilities Engineering Command
1230 Columbia Street, Suite 1100
San Diego, CA 92101

RE: **Draft Remedial Investigation Report, Operable Unit 2B, Sites 3, 4, 11, and 21 Alameda Point**

Dear Mr. Macchiarella:

EPA has reviewed the above referenced report, prepared by Tetra Tech, Inc and submitted by the Navy on April 1, 2004. Due to the length and complexity of the Operable Unit 2B sites, EPA and the State requested 45 day extensions on the report at the May and June 2004 BCT meetings, moving the comment submittal date to July 14.

The Remedial Investigation Report for OU 2B, like OU 2A, presented significant problems with the method used for taking data into the risk assessments performed for each site. Many data results have been inappropriately eliminated from the risk assessments, and the calculated risk therefore cannot be considered representative of the risk associated with each site.

The risk assessment problems and other concerns are detailed in the enclosed comments. In accordance with the Federal Facilities Agreement Section 10.7 (e) a Response to Comments and a Draft Final RI for OU 2B need to be submitted by September 15, 2004.

Please call me at (415) 972-3029 if you have any questions regarding our comments.

Sincerely,

Anna-Marie Cook

Anna-Marie Cook
Remedial Project Manager

enclosure

cc list: Glenna Clark, SWDiv
Marcia Liao, DTSC
Judy Huang, RWQCB
Elizabeth Johnson, City of Alameda
Lea Loizos; Arc Ecology
Jean Sweeney, RAB Co-Chair
Karla Brasaemle, TechLaw Inc
Sophia Serda, USEPA

Review of the Draft OU-2B Remedial Investigation Report
Sites 3, 4, 11, and 21, Alameda Point, California, April 2004

GLOBAL GENERAL COMMENTS

1. Under the sections on Storm Sewer Investigations, please include any relevant information on the storm sewer clean out of the lines and sediment removals in the manholes and catchbasins performed in 1998. Former Site 18 is being addressed within the context of RI/FS work for all other sites and as such the removal action that has been done on Site 18 in the vicinity of the OU 2B sites must be summarized and any sampling results included.

2. The Draft OU-2B Remedial Investigation Report (the RI) indicates that the storm sewer system may be a preferential pathway for the discharge of groundwater contaminant plumes into the Oakland Inner Harbor or the Bay, but it does not appear that the amount of sampling near storm sewers and catch basins is adequate to address potential concerns. In addition, since the storm sewer system was used for industrial waste disposal prior to 1972, it should be considered as a potential source of contamination, but the RI does not indicate whether sediment has been removed from the storm sewers and catch basins. Please discuss whether potentially-contaminated sediment has been removed from the storm sewers and, if not, why storm sewers are not considered to be a potential source of contamination. Also, discuss whether sufficient sampling has been done to address whether the storm drains are potential pathways for discharge of groundwater contamination into the Oakland Inner Harbor or the San Francisco Bay.

3. Please include a discussion on whether the high permeability bedding material surrounding the storm sewer lines and utility lines, especially within Site 4, will form a preferential pathway for contaminant flow in groundwater.

4. EPA considers oil water separators (OWSs) to be likely, possibly continuing, sources of soil contamination to groundwater. The soil beneath and around OWSs at each site (e.g. OWS 360 at Site 4) needs to be sampled to determine whether or not they are a source.

5. The report states that data were used only if it reflected current site conditions. What circumstances would allow for data <u>not</u> to reflect current site conditions other than completion of removal actions? Removing data that is "old" disregards the effects and trends of tidal influences, seasonal fluctuations, possible continuing sources, degradation of parent compounds, hydropunch versus monitoring well data and many other useful pieces of information that help to understand the site and estimate the risks. All validated data should be used.

6. Groundwater must be evaluated for dermal and inhalation exposure pathways for construction workers given both the shallowness of the groundwater and the high concentration levels of the VOCs detected. In addition, the potential for such chemicals

as vinyl chloride accumulating in catchbasins and low-lying areas in utility corridors should be evaluated for the construction worker scenario.

7. The homegrown produce pathway must be evaluated since these sites are slated for future residential use and it is highly likely that gardening, including fruit and vegetable growing, will occur in the soil in these areas. Amending soil with composts and fertilizer does not serve to remediate or eliminate any contaminants present there.

8. The criterion that data must meet the DQOs for the RI in order to be considered appropriate for use in the risk assessments requires further justification. If samples are analyzed with suitable analytical methods and detection limits, and the data are validated, the data should be included in the risk assessment data set. The use of this criterion apparently resulted in dropping data from the risk assessment that should have been included. Please eliminate the quoted criterion or provide justification for using it; this justification should include a detailed analysis that clearly demonstrates why each sample that is eliminated is unsuitable.

9. Every chemical detected above background levels or preliminary remediation goals (PRGs) in soil or groundwater should be discussed in the nature and extent section of each site. The discussion of the nature and extent of contamination should be independent of the risk assessment; therefore, chemicals should not be excluded from the nature and extent section because they are believed to not pose risk at the site. It is inappropriate to characterize the nature and extent of contamination based on chemicals that have already undergone a risk assessment and are considered to be risk drivers, particularly since the data used in the risk assessment are only a subset of the validated data considered acceptable for use in the RI. Please revise the nature and extent sections for each site so that they include all chemicals detected above PRGs.

10. The RI presents a statistical summary of data in which validated data are screened against preliminary remediation goals (PRGs). However, it appears that much of the RI data has not been included in the risk assessment data set. This is confirmed by the fact that often less than 50 percent of the validated samples for the RI were used for the risk assessment as shown in the following table:

Percentage of Validated RI Data included in the Risk Assessment

Analyte	Site 3 Soil	Site 3 Ground-water	Site 4 Soil	Site 11 Soil	Site 21 Soil	OU-Wide Ground-water
VOCs	29.6	11.2	50	15.7	17.4	17.4
SVOCs	32.8	17	79.3	29.7	43.8	53.7
PAHs	100	5	100	96.4	100	314.3

Pesticides	0	100	0	0	54.5	0
PCBs	0	200	0	0	600	0
Metals	60.7	9.0	67	33.9	33.8	22.1
Hexavalent Chromium	-	-	-	-	-	38.1

Based on an evaluation of a few of the chemicals that were detected at Site 4, it is unclear how data were chosen for the risk assessment. It also appears that this has resulted in the exclusion of several contaminants and/or some of the results that represent the maximum detected values from consideration in the risk assessments. For example, Aroclor 1254 was detected above the PRG in 134-SS-001 at 1,300 micrograms per kilogram(ug/kg) but all polychlorinated biphenyl (PCB) and pesticide data was omitted from the risk assessment data set. Similarly, the maximum concentrations of benzo(b)fluoranthene (120,000 ug/kg) and chrysene (130,000 ug/kg) were not used in the risk assessment; the maximum concentrations in the risk assessment data set were 3,100 ug/kg and 2,500 ug/kg, respectively. Please see the attached Excel spreadsheets for a comparison of concentrations used in the Risk Assessment with those used in the RI. It is unclear why validated data are useful for the RI, but not for the risk assessment. The explanation that the DQOs are different is not sufficient, because validated data should be acceptable for quantitative evaluation of risks. In addition, in three cases, more samples were apparently used for the risk assessment than were validated for the RI. Given the disparity between the two data sets, we have little confidence that the risk assessments accurately assess potential health risks associated with these sites. Please either provide a detailed analysis that shows why each sample was or was not included in the risk assessment data set is necessary to demonstrate that the risk assessment data set is representative or revise the risk assessments so that they include some or all of the excluded data.

11. In many cases the reporting limits (RLs) were significantly above the risk-based screening levels (RBSLs), but this was not considered during preparation of the extent of contamination figures. When the RL is more than 100 times greater than the RBSLs, it is possible that contamination below the RLs was not detected. For example, in groundwater, the maximum detection limits for some SVOCs ranged from 1,000,000 to 2,500,000 ug/L when the PRG was 0.0092 to 1.0 ug/L. Significant contamination can be missed when DLs are 4 to 9 orders of magnitude greater than the PRGs. It is understood that this often happens because detection limits (DLs) are elevated when there are high concentrations of other compounds or when there is matrix interference. It is important to understand whether DLs are elevated above RBSLs when reviewing extent of contamination figures. Since all the data is not posted on the contaminant concentration figures, the locations with elevated DLs should be designated in some way, perhaps by using different color symbols. Please indicate locations with elevated DLs on each contaminant concentration figure with a different color symbol.

12. Please smooth out groundwater and contaminant plume contours.

13. The explosive levels of VOCs encountered at Site 3 during the PAH investigation of October 2003 need to included and addressed in this report. See the Field Activity Report by Bechtel, dated April 2004 for a summary of the VOC findings at this site.

14. Please elaborate on closure requirements for RCRA Part A permitted units. Do the closure plans require clean up of soil and groundwater or only soil? If groundwater is required to be cleaned up, how will the clean up activities performed pursuant to the permit closure requirements be compatible with the remedial options chosen under the CERCLA Record of Decision? If groundwater contamination from the RCRA permitted units is not addressed under the RCRA closure plans, where is the contamination from these units characterized and dealt with?

15. The existence, or lack thereof, of a seawall at the eastern edge of Seaplane Lagoon should be verified as it may impact remediation decisions for groundwater.

16. Given the data gaps identified for each site and the difference between the maxima of the RI data set and the maxima of the Risk Assessment data set (see attached Excel spread sheets), the risk assessments are not conservative and it is premature to conclude that no further action is necessary for soil at Sites 4, 11, and 21. Please delete this recommendation from the Executive Summary and from the respective subsections in Section 10.

17. The report contains a good summary of the Existing Uses of Groundwater. In addition, the use of EPA's Wellhead Protection Area model to determine the effect of off-base pumping on groundwater contaminant migration was very useful.

GLOBAL SPECIFIC COMMENTS

1. **Executive Summary, OU-wide Groundwater Plume, Page ES-10 and ES-11:** Please provide more detail regarding the detection of methylene chloride in blank samples compared to the detection of methylene chloride in groundwater samples. This discussion in necessary to determine whether methylene chloride is a contaminant related to site activities or a laboratory contaminant. Also, please explain how the risk assessment accurately assesses risk caused by methylene chloride if only one of the 31 detections was used in the risk assessment.

2. **Executive Summary, Recommendations, Page ES-13:** The statement regarding risk posed to terrestrial ecological receptors is inappropriate. Chemicals were identified that pose a risk to ecological receptors; it is inappropriate to recommend no further action for these chemicals based on the assumption that the risks identified for ecological receptors

are overestimated. Please delete this statement and ensure that chemicals that pose a risk to ecological receptors are recommended for further action.

3. **Section 3.5, Data Evaluation Methods, Page 3-13:** According to this section, the objectives of the nature and extent evaluations are to "(1) present the concentrations of chemicals believed to be used at the site, and (2) provide detailed evaluations of those chemicals that demonstrate significant risk to human health or the environment (risk drivers)." The nature and extent evaluation should present the concentrations of all chemicals detected above PRGs or background at the site since it is not possible to know with certainty every chemical that was used at a site over time. Furthermore, detailed evaluations should be provided for each chemical detected above PRGs or background; the nature and extent evaluation should be conducted independently of the risk assessment and should therefore not provide detailed evaluations only for chemicals determined to be risk drivers. Likewise, the fate and transport evaluations should not limit the discussion to chemicals deemed "risk drivers"; instead, these evaluations should discuss all chemicals detected above PRGs or background. These same issues need to be addressed in Section 3.5.3 (Nature and Extent Approach), 3.5.4 (Fate and Transport Approach), and in the "Nature and Extent" and "Fate and Transport" sections for each site.

4. **Section 3.5.3, Nature and Extent Approach, Page 3-17:** The last sentence in this section states that for metals, screening levels are based on the maximum concentration detected in ambient soil or groundwater. Some maximum concentrations could be anomalous and not representative of ambient concentrations, if outliers were not removed from the data set. Please clarify whether outliers were removed from the ambient data set and if not, explain whether using the maximum concentrations could result in inappropriately high screening levels and the implications if this occurs.

5. **Section 3.5.5, Human Health Risk Assessment Approach, Page 3-18:** This section states that "some alternate agency risk assessment methods were used in lieu of or in addition to the parallel EPA method" but only mentions the use of DTSC's lead risk model, LeadSpread 7. If additional alternate agency risk assessment methods were used, please discuss the specific methods in the text and explain why they were used in lieu of or in addition of the parallel EPA method.

6. **Section 3.5.5.2, Identification of Chemicals of Potential Concern, Page 3-20:** According to the text, analytes detected in less than 5 percent of samples were excluded as contaminants of potential concern (COPCs) because chemicals detected infrequently may be sampling and analytical artifacts or spurious data. However, infrequent detection may indicate the presence of a hot spot, and additional sampling would be required to determine the extent of contamination. It could also be due to detection limits that are set well above the PRGs. Please explain how the Navy will ensure that hot spots and other possible contaminant areas are adequately addressed when these results were deleted from the risk assessment data set.

7. **Section 3.5.5.3, Exposure Assessment, Pages 3-22 and 3-23:** Construction worker exposure via inhalation and dermal contact should be evaluated based on the high concentration levels of VOCs encountered in the groundwater. Homegrown produce must also be included in the risk assessment as these sites are designated as future residential.

8. **Section 3.5.5.3, Exposure Assessment, Page 3-22:** The text in the last paragraph on page 3-22 states that the commercial/industrial worker and recreational receptors were evaluated for exposure to surface soil (0 to 2 feet bgs), but on the previous page the text states that the recreational exposure scenario was not evaluated because each site was evaluated for exposure scenarios that were more protective to human health than the recreational exposure scenario. Please resolve this discrepancy.

9. **Section 4.2.2.1, Groundwater Flow in the FWBZ, Page 4-4:** Groundwater elevation data collected over a period of three weeks (as was the case in June 2002) should not be used to construct groundwater elevation contours (Figure 4-11) and make conclusions regarding groundwater flow. This data cannot easily be corrected for tidal influence and used to construct meaningful maps because there may be other factors that influence the groundwater elevations in site wells when measurements are collected over an extended period of time. Please remove Figure 4-11 from the RI or explain why this data should be considered acceptable. Also, please explain why the data was not collected over a shorter time period.

10. **Section 4.2.2.1, Groundwater Flow in the FWBZ, Page 4-4:** According to the text, since the 2002 groundwater elevation data were not collected synchronously, they are considered to be approximate and therefore were interpreted without making corrections for tidal influence. It is unclear why the September 2002 data, which was collected over a 1.5 hour period, is not considered to have been collected synchronously, and why it was therefore interpreted without making corrections for tidal influence. Furthermore, it is unclear why the April 2003 data was not tidally corrected. The text states that this data was collected in a short enough time period (6 hours) that the tidal influence should be minimal. These statements contradict each other, since data collected over 1.5 hours should be acceptable if data collected over 6 hours is acceptable. Please clarify when tidal correction is appropriate and revise the text so that data collected over short periods of time is treated consistently.

11. **Figure 4-2, Geological Cross Section A-A', Site 3:** The horizontal line bisecting lithology in the MW97-2 boring is not defined. The line, which was drawn at approximately 5 ft msl, does not appear in the boring log. Please either define it or remove it.

12. **Figure 4-2, Geological Cross Section A-A', Site 3:** The lithology at boring D03-01 is not depicted accurately on Figure 4-2. The cross section indicates that from 5-8 feet below ground surface (ft bgs), a layer of well graded sands exists (SW). However, the

boring log shows that the lithology from 5-8 ft bgs is SW/SC. In addition, a lens of clayey sand (SC) exists at 11 ft bgs, but this lens is not included in the figure. Please revise Figure 4-2 appropriately.

13. **Figure 4-3, Geological Cross Section B-B', Site 3:** The boring log for soil boring S04-DGS-DP01 indicates that clayey sand (SC) was observed between 10 and 23 ft bgs, but, this depth interval is shown as silty sands (SM) on the figure. Please ensure that the boring logs and cross sections are consistent.

14. **Figure 4-4, Geological Cross-Section A-A', Site 4:** This cross-section does not provide information to evaluate potential contaminant migration. It is not possible to connect the stratigraphy across the figure because most wells are shallow. As a result, it appears that logging was done inconsistently or that the lithologic information is inadequate. Please consider selecting a different line of section to provide information.

15. **Figure 4-4, Geological Cross-Section A-A', Site 4:** The lithology of S04-DGS-DP21 as shown in the cross-section does not match the boring log. There is a large discrepancy in the representation of the surface layer as well as confusion about the difference between sorting and grading. A well-sorted sand is a poorly graded sand, while a poorly sorted sandy gravel is a well- graded gravel. Please correct these errors in the cross-section.

16. **Figure 4-13, Groundwater Level Elevations Without Tidal Corrections, April 2003:** The sharp curves in the groundwater contour lines near wells MW360-2, MWD13-3, M03-05, and MW97-3 probably do not accurately represent site conditions. Groundwater tends to assume the flattest possible surface and the contours should reflect this. It is unclear why these wells, particularly MW360-2, were not drawn with isolated contours like other wells on this figure (e.g. 372-MW1 and M11-04). Please revise this figure to isolate abrupt changes in groundwater elevation within separate contours.

17. **Figure 4-15, Potentiometric Surface Map, Second Water Bearing Zone, April 2003:** Well D04-03, with a groundwater elevation of 5.5 ft MLLW, is located between the 5.9 and 6.0 contour lines. Please revise the contours to reflect this groundwater elevation.

SITE 3 GENERAL COMMENTS

1. Structure 175 (transformer house) is identified in Section 5.4.1 as a potential source of PCB contamination, but according to Figure 5-5, no samples were collected in the vicinity of Structure 175 during the EBS investigations. Since soil samples were not collected as part of CERCLA investigations, PCB analyses were not done and the extent of PCB contamination in the vicinity of Structure 175 has not been adequately characterized. Please discuss how this data gap will be addressed.

2. The extent of lead contamination in soil has not been determined in the vicinity of 129-001-002 and M03-07. Delineation was done to the north and south of these locations but not to the east or west. Please discuss how this data gap will be addressed.

3. The text states that the vertical extent of elevated lead in the Site 3 groundwater plume is unknown. In addition, the extent of lead in groundwater has not been determined in the vicinity of CA03-02 and M03-07, north and east of M03-04, west of S03-DGSDP31 and S03DGS-DP14, and south and southwest of of S03-DGS-DP17. These are data gaps. Please discuss how the horizontal and vertical extent of lead in groundwater will be determined.

4. The sediment data in Appendix D is not discussed. Please include a discussion of the sediment data in the text.

SITE 3 SPECIFIC COMMENTS

1. **Section 5.1.1, History, Page 5-2:** Historically, GAP 10 was used to store solvents, waste oils, and asbestos. Please discuss whether the presence of asbestos-related contaminants was investigated in the vicinity of GAP 10.

2. **Section 5.1.1, History, Page 5-3:** It is unknown whether the transformers located east and west of Building 337 contained PCBs. However, it does not appear that any soil samples in the vicinity of Building 337 were analyzed for PCBs during the EBS or CERCLA investigations. This represents a data gap that needs to be addressed.

3. **Section 5.1.1, History, Page 5-4:** Heavy staining is visible near Former Building 109 and Former Structure 430 in aerial photographs from 1975. The fate of this heavily stained soil is unclear. Please discuss whether there was a known soil removal action, whether these areas are still stained, or any other information regarding these heavily stained areas.

4. **Section 5.1.1, History, Page 5-5:** In the storm sewer discussion, a few sewer lines are described as having a "significant sag." Please discuss these sags in greater detail, including a more detailed description of their magnitude and the implications of the sags.

5. **Section 5.2.1, Comprehensive Environmental Response, Compensation, and Liability Act Investigations, Page 5-7:** During the 1994 Follow-on Investigation, five shallow monitoring wells (M03-04 through M03-08) were installed to further characterize the extent of TPH in the SWBZ, but wells M03-05 and M03-06 were not included in the groundwater summary in Table 5-2 or on Figure 5-3 because these points are no longer within the Site 3 boundary, which has changed since this investigation. However, if these points are useful in delineating the extent of TPH contamination, please include them on Figure 5-3.

6. **Section 5.3.1, Soil, Page 5-12:** Please provide more detail regarding the pesticide and PCB data collected under the EBS investigations, including the number of samples analyzed for PCBs and pesticides, the number of detections, the maximum concentration detected, and the number of PRG exceedances. Since both pesticides and PCBs were used at the site and no soil samples that were collected as part of CERCLA investigations were analyzed for pesticides or PCBs, a more in-depth discussion of the findings and extent of the EBS investigations is necessary.

7. **Section 5.3.3, Groundwater, Page 5-13:** This section states that for the lead groundwater plume, analytical results from 16 direct push groundwater samples collected during the Data Gap investigation from 2001 to 2002 were selected as the subset of groundwater data for use in the risk assessments. It is unclear why only a subset of data was used in the risk assessment and how this subset was selected.

8. **Section 5.4.2, Background, Page 5-15:** The background comparison was conducted by comparing a background data set with analytical results for metals in samples representative of the site, but it is not clear why this was not done for lead in the groundwater plume. The background data set should be compared to all analytical results for metals at the site.

9. **Section 5.4.3, Nature and Extent, Page 5-17:** The table entitled "Soil Analytical Results for Chemicals Believed to Have Been Used At Site 3" should include all chemicals detected above PRGs. As presented, this table does not include all of the chemicals known to have been used at the site, for example, building 112 was used as a zinc smelter, but zinc is not included. It is unclear why only Aroclor 1260 was included, since it is unlikely that this is the only Aroclor used in transformers, cutting oils, etc. Given the unknown chemical uses at several former buildings and the difficulty in constructing a complete and accurate site history, it is impossible to know every chemical that was used at a site. Every chemical detected above PRGs should be included in the table and discussed in both the nature and extent of contamination section and in the fate and transport section.

10. **Section 5.4.3.2, Risk Drivers, Arsenic in Soil, Page 5-19:** The potential that the Garden Shop may have been a source of arsenic was not recognized in the text. The fact that the highest concentration of arsenic was detected in the vicinity of Building 512B/222, Garden Shop, and Building 517, former garden shop, is significant because arsenic trioxide was a common insecticide.

11. **Section 5.4.3.2, Risk Drivers, Polynuclear Aromatic Hydrocarbons in Soil, Page 5-19:** It is unclear if there were PAH detections during previous investigations because it appears that the only data discussed in this section and presented on Figure 5-10 is from the 2003 Basewide PAH Investigation. Tables D-2 and D-12 indicate that there were PAH detections during earlier investigations. Please discuss PAH detections during earlier investigations and incorporate this data on Figure 5-10.

12. **Section 5.4.3.2, Risk Drivers, Lead in Groundwater, Page 5-20:** The text does not indicate whether the storm sewer system is believed to be the potential source of lead contamination in groundwater or whether the storm sewers potentially transport lead contamination off-site. Please discuss the significance of the storm sewer line within the lead groundwater plume at Site 3.

13. **Section 5.4.4.2, Lead in Soil, Page 5-21:** The text in this section states that it is unlikely that lead in soil will migrate to groundwater due to the geochemical conditions at Site 3. However, there are elevated lead concentrations in soil directly above the groundwater plume, so it is likely that lead in soil migrated to groundwater in the past. Please clarify.

14. **Section 5.4.4.3, Polynuclear Aromatic Hydrocarbons in Soil, Page 5-21:** The text states that PAHs have a low potential for migration and will likely remain in their present locations, but these statements do not take the presence of solvents and fuels into account. In the presence of fuels and some solvents, PAHs are more soluble and can migrate to and with groundwater. Please revise the text to incorporate this information.

15. **Figure 5-2, Condition of Storm Sewers at Site 3:** Aside from two labels on the figure that indicate "Sound Condition" and two labels that indicate "Condition Unknown," the condition of storm sewers cannot be determined by looking at this figure. Please revise Figure 5-2 so that the extent of storm sewer lines with cracks and significant observed groundwater infiltration and the lines with no cracks or significant observed groundwater infiltration are clearly marked.

SITE 4 GENERAL COMMENTS

1. The text on Page 6-13 states that wipe and scrape samples were collected in the plating shop, but the analytical results from these samples are not discussed in the text. Similarly, the results from sludge and sediment samples are not discussed in the text. Please discuss the results of wipe, sludge, and sediment samples and provide a figure showing the location of these samples.

2. The extent of sampling in the vicinity of the locations with the maximum concentrations of various analytes in soil was inadequate. For example, the maximum concentrations for eight chemicals are located in the eastern portion of the site (east of Building 360). Figures 6-3 (Site 4 Sampling Locations for the CERCLA and TPH Investigations) and 6-6 (Site 4 Sampling Locations for the EBS Investigations) show that sampling was relatively sparse in this area relative to the rest of Site 4. It appears that the extent of contamination in the vicinity of the maxima east of Building 360 has not been determined: This is a data gap and additional sampling should be done east of Building 360 to determine the extent of soil contamination.

3. The extent of copper and cadmium contamination beneath Building 360 has not been defined. The maximum concentrations were detected in B04-41, but there are no samples

to the east or west of this location to delineate the extent of contamination. In addition, it does not appear that any samples were analyzed for copper or cadmium beneath the southern and east central portions of Building 360. Please discuss how these data gaps will be addressed.

4. Similarly, the extent of silver beneath Building 360 has not been defined. The majority of samples were collected in the west central portion of the building beneath the plating shop area, but it is possible that there is silver contamination in other areas since silver was also detected in B04-41 in the north. The extent of silver contamination east and west of B04-41 has not been determined. Please discuss how these data gaps will be addressed.

SITE 4 SPECIFIC COMMENTS

1. **Section 6.1.1, History, Page 6-2 and Figure 6-1, Site 4 Features:** The text states that OWS-414 was associated with Building 414, but this OWS is missing from Figure 6-1. Also, the text states that OWS-360 was located on the northwestern side of Building 360, but Figure 6-1 shows OW-360 on the northeastern side of the building. Please include OWS-414 on Figure 1 and resolve the discrepancy in the location of OWS-360.

2. **Section 6.1.1, History, Open Space, Page 6-10:** The text describes areas in the northern portion of Site 4 that were used for drum storage or that had Aboveground Storage Tanks (ASTs) but the location of these features is not shown on any of the figures. Given the fact that the source of the dense nonaqueous phase liquid (DNAPL) plume appears to be in this area, it is important to include features like drum storage areas on a map. If this is not possible, aerial photographs showing the drum storage area should be provided. This information should also be used in the conceptual site model. Please include the location of the drum storage area and ASTs on a figure or include the relevant aerial photograph(s). Also, please depict any other observed features north and northwest of Building 360.

3. **Section 6.2.1, Follow-on Investigation, 1994, Page 6-13 and 6-14:** Identification numbers for the CPT points discussed at the beginning of the second paragraph are not specified. Please revise the text to include the identifiers of these CPT locations.

4. **Section 6.2.1, Geochemical Profiling to Define Chlorinated Solvent Plumes, 1997, Pages 6-14 and Section 6.2.1, Follow-On Investigation, 1998, Page 6-15:** The text states that geochemical profiling samples were collected along eight transect lines and references Figure 6-3, but this figure contains so many data points that the transects cannot be distinguished. Further, the locations of the discrete groundwater samples from the follow-on investigation are not obvious on Figure 6-3. Also, the identifiers of these sample locations are not specified in the text. Please provide a separate figure that shows the transect lines and include the sample identifiers in the text.

5. **Section 6.3.1, Soil, Page 6-21:** It is unclear why soil samples collected as a part of CERCLA investigations were not analyzed for pesticides and PCBs, when the pesticide and PCB data collected under the Environmental Baseline Survey (EBS) investigations were of poor quality. It is inconsistent to say that a data gap does not exist "because pesticides were detected at low concentrations during the EBS sampling" and to say that the data was of insufficient quality for the human health risk assessment (HHRA). The extent of pesticide and PCB contamination is a data gap and additional sampling should be performed in order to determine the extent of pesticide/PCB contamination at the site. Please discuss how this data gap will be addressed.

6. **Section 6.4.3, Nature and Extent, Page 6-25:** The table entitled "Soil Analytical Results for Chemicals Believed to Have Been Used At Site 4" should include all chemicals detected above PRGs. As presented, this table does not include all of the chemicals known to have been used at the site. For example, antimony, lead, arsenic, mercury, and titanium were probably used in site operations, but these metals are not included in this table. Given the unknown chemical uses at several former buildings and the impossibility of constructing a complete and accurate site history, it is impossible to know every chemical that was used at a site. Every chemical detected above PRGs should be included in the table and discussed in both the nature and extent of contamination section and in the fate and transport section.

7. **Section 6.4.3.2, Risk Drivers, Page 6-27:** It is likely that the chromium, cadmium, and silver detected in elevated concentrations were associated with plating operations, but it does not appear that an investigation was done to determine the extent of cyanide, which was also associated with plating. Please clarify whether an investigation for cyanide was done in this area and if not, discuss how this data gap will be addressed.

8. **Section 6.4.3.2, Risk Drivers, Page 6-28:** According to the text in this section, screening levels for metals in soil are based on the maximum metal concentrations detected in ambient soil. If the maximum metal concentration was anomalous and much higher than the average concentration detected in ambient soil, it seems that the screening level has the potential to be inappropriately high. It is also unclear if outliers were removed from the ambient data set. Please explain why it is appropriate to base the screening levels on the maximum metal concentrations detected in ambient soil and discuss whether outliers were removed from the ambient data set.

9. **Section 6.4.4.5, Polynuclear Aromatic Hydrocarbons in Soil, Page 6-32:** The text in this section states that the potential for leaching of PAHs from contaminated soil to groundwater is limited because of the lack of infiltrating water (because most of the site is paved). However, it is not clear whether most of the site will remain paved under the future use scenarios. Also, the presence of solvents and fuels may impact PAH transport. Please include a description of PAH fate and transport that accounts for the fact that less of the site may be paved in the future and for the presence of fuels and solvents.

10. **Section 6.5.3, Recommendations, Page 6-43:** Soil at Site 4 is not recommended for further action in an FS, but this recommendation is based on an HHRA that did not include most of the data deemed acceptable for the RI and on an ERA that found that cadmium, copper, silver, and PAHs posed potential risk to ecological receptors but assumes that the risks are overestimated and therefore disregards them. In addition, potential continuing soil sources of contamination such as OWS 360 have not been sampled so it is unknown whether any soil needs remediation in these areas.

11. **Figure 6-2, Condition of Storm Sewers at Site 4:** Aside from two labels on the figure that indicate "Sound Condition" and two labels that indicate "Condition Unknown", the condition of storm sewers cannot be determined by looking at this figure. Please revise Figure 6-2 so that the storm sewer lines with cracks and significant observed groundwater infiltration and the lines with no cracks or significant observed groundwater infiltration are clearly marked.

SITE 11 GENERAL COMMENTS

1. The text in Section 7.1.1 states that staining was visible south of Building 14 in a 1996 aerial photograph, but it is unclear whether sampling was done in this area since the stained area is not shown on any of the figures. This building is about 360 feet long, so it is important to understand exactly where this staining was observed. Further, with the exception of the area beyond the southwest corner, very few samples were collected south of the building. Please discuss the specific location of the observed staining and discuss whether samples were collected from this area. If samples were not collected in this area, discuss how this data gap will be addressed.

2. PCBs were potentially used as a form of weed control near the site. It is also likely that there were transformers that may have contained PCBs associated with the buildings. This section notes that pesticides and PCBs were generally not detected in the EBS samples and states that a data gap does not exist even though pesticide and PCB data collected under the EBS investigation were of poor quality and that soil samples collected as a part of CERCLA investigations were not analyzed for pesticides and PCBs. The minimal number of sampling locations on Figure 7-5 indicates that EBS sampling was fairly sparse, indicating that the nature and extent of PCB and pesticide contamination may not be fully characterized at Site 11. Please explain how many EBS samples were analyzed for pesticides and PCBs, the number of detections and PRG exceedances, and the maximum concentrations for both pesticides and PCBs, and use this information to support the argument that there is no data gap.

SITE 11 SPECIFIC COMMENTS

1. **Section 7.1.1, History, Page 7-4 and Section 7.2.3, Total Petroleum Hydrocarbon Investigation, Page 7-9:** The text on page 7-4 states that significant groundwater

infiltration was observed in the section of the storm sewer from manhole I to catch basin IB, but the relationship between the TPH plume and groundwater infiltrating into the storm sewer is not discussed. This observation of groundwater infiltration suggests that portions of the TPH plume that intersects the storm drains in the southern part of the site (Section 7.2.3, paragraph 2) may be entering the storm sewers and may be discharged to the Seaplane Lagoon or to San Francisco Bay. It is not clear whether any action has been taken to prevent this. Please discuss whether TPH-contaminated groundwater is entering the storm sewers and discuss where this water is discharged. Also, if TPH-contaminated groundwater is entering the storm sewers, please discuss whether any action has been taken to prevent discharge of this water to the Seaplane Lagoon or to San Francisco Bay.

2. **Section 7.4.3.1, Chemicals Believed to Have Been Used at the Site, Page 7-16:** Further justification should be provided for the argument that the detections of chlorobenzene and methylene chloride at 030-MOD1-136 and 138-001-002, respectively, are likely associated with laboratory contamination of the samples. Please specify how far these sample locations are from Building 14, and whether the presence of these chemicals could be due to sources other than Building 14.

3. **Section 7.4.3.1, Chemicals Believed to Have Been Used at the Site, Page 7-16:** The nature and extent section should include details regarding the vertical extent of contamination, but this information is not included consistently. Please include the depths that acetone and mercury were detected at near the industrial waste treatment line east of Building 627.

4. **Section 7.4.4.3, Polynuclear Aromatic Hydrocarbons in Soil, Page 7-19:** The text does not include the fact that PAHs may also be associated with fuels and motor oil. Since all of Site 11 is a Corrective Action Area (CAA), it is likely that some of the PAHs are associated with the TPH contamination. Please revise the text to discuss sources of PAHs other than asphalt or fill materials.

5. **Section 7.5.3, Recommendations, Page 7-29:** It is unclear why the site is recommended for no further evaluation in an FS even though copper and PAHs in soil pose potential risk to ecological receptors. It is inappropriate to assume that the risks identified for ecological receptors are overestimated; the ERA is supposed to provide a conservative estimate of risk due to the uncertainties inherent in risk assessments. The results cannot be disregarded because they are believed to be overestimated. Although the site is mostly buildings and paved open space right now, and therefore does not contain much habitat, it is possible that under future use scenarios there will be larger areas of unpaved open space that could serve as potential habitat for urban wildlife (squirrels, scrub jays, and American robins).

6. **Table 7-1:** Monitoring Well D11-01 and sediment sample NPS-S11-01 are not included in this table. Please add the missing sample locations.

7. **Figure 7-7, Maximum Concentrations in Soil of Chemicals Used at Site 11**: USTs 37-1 through 37-10 are not included on this figure. Please include these USTs on this figure.

SITE 21 GENERAL COMMENTS

1. According to former Naval Aviation Department (NADEP) employees, a drum storage area was formerly located on the west exterior side of Building 398 and mercury spills occurred frequently in Building 398, but sampling was not done in or west of Building 398. According to Figures 8-3 and 8-5, there were no soil samples located inside or outside the western side of Building 398, except that EBS samples 126-003-009 and 126-002-003 were located beyond the southwestern corner of the building. This represents a data gap. Also, no samples were collected beneath most of Building 398 and the maximum concentration of mercury was detected in a boring beneath the northeast portion of this building, so the extent of mercury contamination is unknown. In addition, the text states that building tenants cleaned and reconditioned floors to remove all staining and repaired cracks so visual inspection is not sufficient to determine the potential for contamination. Further, this area was formerly an aluminum smelter, but sampling has not been done beneath most of the building. Please discuss how these data gaps will be addressed.

2. Similarly, sampling has not been done in the vicinity of GAP 11, GAP 46 or SWMU 162 beneath Building 162, where solvents and hazardous waste were stored, so the nature and extent of contamination has not been delineated beneath Building 162. It is unclear why sampling beneath building focused on a narrow strip in the center of the building. Please discuss how this data gap will be addressed.

3. OWS-162 is noted as a place where hazardous materials were discharged but it does not appear that sufficient sampling was done to evaluate the nature and extent of contamination in this area. The text on page 8-2 references a soil sample collected near this location, but this sample is not shown on any of the figures. Since the nature and extent of contamination is unknown, it is premature to recommend this site for no further action (NFA). Please discuss how the nature and extent of contamination will be evaluated and delete the NFA recommendation on page 8-2.

4. The potential for PCB contamination associated with transformers was not addressed. Further, it does not appear that sampling was done in the vicinity of transformers to evaluate the extent of PCB contamination. If building walls and floors were repainted, a visual inspection would not be sufficient to evaluate potential PCB contamination. Please discuss the location of transformers, whether any staining was evident in the vicinity of the transformers and whether sampling was done to assess the extent of PCBs. Also, please discuss how this data gap will be addressed.

5. The extent of lead contamination has not been determined. Lead was detected in 66 of 78 samples, with the maximum concentration found at sampling location 126-002-003, near

the southwest corner of Building 398 along the storm sewer line. Given that this location represents the maximum lead concentration, and the fact that this sample was located along the storm sewer line, it is unclear why additional samples were not collected during the CERCLA investigations (see Figure 8-3) in this vicinity. Please discuss how this data gap will be addressed.

6. The extent of copper contamination in soil has not been determined. Copper was a component of jet engine lubricant, but only two locations were analyzed for copper from beneath the floor of Building 398 and all of the associated samples contained copper above the maximum ambient concentration of copper. One of two samples from beneath Building 113 had copper above ambient. The extent of copper contamination was not determined beneath either building. In addition, copper was detected above ambient levels in a shallow sample collected near a storm sewer (B07B-05). Since jet engine lubricant may have been discharged to drains, soil in the vicinity of the the sanitary and storm lines should be evaluated for copper. Please discuss how these data gaps will be addressed.

SITE 21 SPECIFIC COMMENTS

1. **Section 8.1.1, History, Page 8-4 and Figures:** The text states that "a faded red and white rectangle on the concrete outside Building 398 was all that remained of NADEP GAP 45," but the figures show this GAP inside Building 398. Please resolve this discrepancy and correct the text or the figures as necessary.

2. **Section 8.1.1, History, Page 8-5:** Staining is associated with former Building 349 and the oil-filled transformer adjacent to the south side of the building. Also, during the Phase I EBS investigation, a hose was observed emerging from Building 349 and draining directly into the storm drain. Sampling should be done in the vicinity of Former Building 349 and the associated storm drain.

3. **Section 8.4.3.1, Chemicals Believed to Have Been Used at the Site, Page 8-18:** The text states that copper was "generally detected at concentrations above the maximum background concentration in shallow soils beneath Buildings 398 and 113, but the only area where samples were collected beneath Building 398 was in the northeast corner. The extent of copper contamination beneath Building 398 is unknown. Please discuss how this data gap will be addressed.

4. **Section 8.4.3.1, Chemicals Believed to Have Been Used at the Site, Page 8-18:** The text notes that the location of the maximum concentration of aluminum does not correspond to the area at Building 398 where aluminum smelting activities are known to occur, but the samples were only collected from beneath the northeastern portion of this building. In addition, the nature and extent discussion should not only discuss the maximum concentration because the location of other detections are also of interest.

Aluminum was detected at 43 of 44 samples from Site 21. The text should discuss the location of the 42 other detections and the location of these samples relative to the area at Building 398 where aluminum smelting activities are known to occur.

5. **Section 8.4.4, Fate and Transport and Figure 8-7, Maximum Concentrations in Soil of Chemicals Used at Site 21:** The discussion of fate and transport does not include contaminants that were detected along sanitary sewer lines. Figure 8-7 indicates that several maximum concentrations were detected along sanitary sewer lines (acetone, trichloroethene, benzene, and xylene-total) and several maximum concentrations were detected along storm sewer lines (lead, 4-4'-DDD, 4-4'DDT, Aroclor-1260, but these contaminants are not discussed in the fate and transport section. Please discuss the fate and transport of these chemicals in the text.

6. **Section 8.4.4, Fate and Transport, Page 8-20:** The fate and transport evaluation should discuss all chemicals detected above PRGs or background, not just the risk drivers. Also, the text identifies copper and lead in soil as the only chemicals driving risk even though PAHs and arsenic were also identified as risk drivers by the ecological risk assessment (ERA) and HHRA, respectively.

7. **Section 8.4.4, Fate and Transport, Page 8-21:** The last sentence of this section states that "the following sections present the fate and transport evaluation for each chemical driving risks to ecological receptors at Site 21." Since both the HHRA and the ERA identified lead as a risk driver, human receptors should also mentioned.

8. **Section 8.4.4.2, Lead in Soil, Page 8-21:** This section states that the maximum concentration of lead (450 mg/kg) was observed at sampling location 127-002-005. According to both Section 8.4.3.1 and Figure 8-10, this maximum concentration was observed at sampling location 126-002-003.

9. **Section 8.4.4.2, Lead in Soil, Page 8-21:** Lead is considered relatively immobile because neither acidic conditions nor low sulfate concentrations are present at Site 21. Evidence of these claims, such as a range of pH values measured at Site 21, should be provided to support this claim. In addition, lead may have been associated with leaded gasoline. Please discuss analyses that were done that support the immobility of lead at this site or state that the mobility of lead at Site 21 cannot be determined.

10. **Section 8.5.3, Recommendations, Page 8-31:** No further evaluation in an FS is recommended for soil at Site 21, but this recommendation is based on inadequate risk assessments for human and ecological receptors. Arsenic and lead in soil pose potential risk to human receptors and copper, lead, and PAHs in soil pose potential risk to ecological receptors. This risk management decision should be made by the BCT. In addition, the extent of PCBs, lead, copper, mercury, and PAHs has not been determined, so this conclusion is premature. Please delete this recommendation and discuss how the data gaps will be addressed.

11. **Figure 8-8 Site 21 Concentrations of Arsenic in Soil:** The legend indicates that samples that exceed the screening level are shown in red, but the symbol for 127-02-005 is not red on this figure. Please resolve this discrepancy.

GENERAL COMMENTS ON SECTION 9, OU-WIDE GROUNDWATER PLUME

1. The text states that pesticides and PCBs were not included in the risk assessment data set because they were not detected in 1991 and 1994 so they were not the focus of subsequent sampling, but according to Table 9-1, with the exception of some wells at Site 11, samples for pesticide and PCB analysis were only collected from 3 monitoring wells. Therefore, pesticides and PCBs were not detected because samples were not analyzed for them. This approach is insufficient to characterize contamination in an area as large as OU-2B, so the extent of contamination is unknown. The extent of pesticide and PCB contamination should be considered a data gap. Please discuss how this data gap will be addressed.

2. The extent of solvent contamination west and west-southwest of Building 398 is unknown because there are no monitoring wells or grab groundwater sample locations in this area. The western side of Building 398 was used for drum storage, so it is unclear why this area was not included in the investigations. Please discuss how this data gap will be addressed.

3. The extent of 1,1,1-TCA, 1,1,2-TCA, and vinyl chloride is unknown because DLs were between 100 and 5,000 ug/L. This is most likely due to high concentrations of TCE, but the result is that the extent of the listed chemicals is not known. This is demonstrated on Figure 9-14, where most of the listed values are non-detects. Please discuss how this data gap will be addressed.

4. The source of 1,4-dichlorobenzene in the vicinity of MW360-1 has not been found. Concentrations of this compound generally increased during quarterly sampling in 2001 and 2002; this suggests that the source area is not at MW360-1. Please discuss how this data gap will be addressed.

5. In many cases, the text states that 778 to 1542 samples were analyzed but only a limited number of these results are included on the extent of contamination figures. For example, chloromethane was analyzed in 778 samples, but only 12 sample results are presented on Figure 9-24. As a result, it is unclear whether elevated DLs prevented detecting this compound. Please include the number of samples with DLs above the RBSLs on figures and in the text. In addition, please use a different color to indicate sample locations with elevated DLs so that the extent of contamination can be evaluated.

SPECIFIC COMMENTS ON SECTION 9, OU-WIDE GROUNDWATER PLUME

1. **Section 9.1.1, Groundwater, Page 9-2:** Since laboratory detection limits for some

chemicals exceeded residential PRGs, it is unclear why Section 9.1 (OU-wide Groundwater Plume Data Assessment) states that DLs were sufficiently low to permit identification of potential health risks. For example, many of the Maximum DLs are 4 to 9 orders of magnitude greater than the PRGs. Please resolve these apparently conflicting claims.

2. **Section 9.1.1, Groundwater, Page 9-2:** Direct-push groundwater data were used due to a lack of monitoring well data in the concentrated plume areas. If groundwater samples from direct push or standard borings were eliminated from the risk assessment, it is unclear how the risk assessment can be considered representative of site risk. Please explain why monitoring wells were not installed in the concentrated plume areas and discuss how groundwater contamination can be monitored over time without monitoring wells.

3. **Section 9.2.3, Nature and Extent, Page 9-7:** The nature and extent section should present the types and concentrations, and provide an evaluation of every chemical that was detected above PRGs or background concentrations rather than only providing a detailed evaluation of those chemicals that are defined as risk drivers. This is important because some chemicals appear to be non-detects because DLs were elevated. Please include every chemical detected above PRGs or background in the nature and extent discussion.

4. **Section 9.2.3.1, Chemicals Believed to Have Been Used at the Site, Page 9-10:** The text notes that the highest concentrations of aluminum, copper, and mercury are located near Building 360, and then states that aluminum was used as aluminum oxide at Building 360, copper was used as a component in jet engine lubricant, and mercury was used at Building 162 to repair aircraft navigation instruments. Since locations where metals were used are associated with the locations where the maximum concentrations were detected, it is unclear why the use of mercury at Building 162 is mentioned, but the reported mercury spills at Building 398 are not mentioned. In addition, it is unclear why manganese, molybdenum, and vanadium are not included as metals used at the site; these metals are components of various steels. Please include a complete list of metals that could have been used at the site and also, discuss the known mercury spills in Building 398.

5. **Section 9.2.3.2, Tetrachloroethene (PCE) in Groundwater, Page 9-12:** The text states that PCE was detected at concentrations ranging from 0.2 to 330 ug/L, but then states that the maximum concentration was 14 ug/L. Please resolve this discrepancy. In addition, according to Figure 9-5, there were 18 samples with DLs above 25 ug/L; the number of samples with DLs above the PRG should be noted.

6. **Section 9.2.3.2, Risk Drivers, Page 9-15:** It is not clear that the concentration of benzene has actually decreased as stated in the text. The text states that several samples collected near the western end of Building 372 contained benzene at concentrations

exceeding 100 ug/L, but since the samples were collected in 1995, "significant decreases in benzene concentrations have likely occurred since then." This is based on an unstated assumption that there is no source in this vicinity or that the source area has been removed, but the text in the next paragraph suggests that Building 372 is the source of this benzene contamination. Since more recent data is not available for this area and uncertainty exists regarding the current benzene concentrations in this area, the current concentration of benzene is a data gap that should be addressed by additional sampling. Please discuss how this data gap will be addressed.

7. **Section 9.2.3.2, Methylene Chloride in Groundwater, Page 9-18:** The methylene chloride discussion is not consistent with the description of the extent of contamination for other chemicals because it does not include the range of detected concentrations. Please include the range of concentrations of methylene chloride detections.

8. **Section 9.2.4, Fate and Transport, Page 9-20:** The fate and transport evaluation should include a discussion of the fate and transport of all chemicals detected above PRGs or background, not just the fate and transport of chemicals driving risk. This evaluation should be independent of the risk assessment. Please discuss the fate and transport of all compounds detected above PRGs or background.

9. **Section 9.2.4.1, Chlorinated Volatile Organic Hydrocarbons in Groundwater, Page 9-20:** It is unclear why 1,4-dichlorobenzene, bromodichloromethane, chloroform, and chloromethane are not considered contaminants of concern when they were detected above their respective PRGs. The maximum DLs were 500 ug/L, so it is likely that these chemicals were present but not detected in some locations. Please discuss the listed chemicals in this section.

10. **Section 9.2.4.1, Chlorinated Volatile Organic Hydrocarbons in Groundwater, Page 9-20:** It is unclear why the text states that DNAPL would migrate in the 10 to 55 foot depth interval. DNAPL migration is controlled by gravity and permeability, as well as the amount of DNAPL in the subsurface, and it is likely that after this much time, any DNAPL is stable unless it is disturbed. Please explain why DNAPL is believed to be migrating.

11. **Section 9.3.1, Nature and extent Conclusions, Page 9-28:** It is inappropriate to compare hexavalent chromium to background and dismiss it as background when it was used in plating operations in OU-2B. A plausible mechanism for natural hexavalent chromium production has not been provided, so it is possible that hexavalent chromium is not naturally occurring at Alameda Point. Please delete the comparison of hexavalent chromium to background or provide a plausible mechanism for natural production of hexavalent chromium, including data to support this mechanism.

12. **Section 9.3.1, Nature and extent Conclusions, Pages 9-28 and 9-29 and Section 10.5.1, Nature and Extent Conclusions, Pages 10-14 and 10-15 :** It is inappropriate to

conclude that detections of methylene chloride were due to laboratory contamination when this chemical was known to have been used at this site (Page 9-9), when these detections were not qualified because of blank contamination, and when most of the detections that exceeded the RBSL were located in close proximity to one another. Also, there are two paragraphs in which methylene chloride is discussed in these sections. Please delete the statement that methylene chloride is due to laboratory contamination and consolidate the two paragraphs into one.

APPENDIX A

1. It appears that the first page of the boring log for boring CPT-S4-01 has been omitted. Please ensure that this page is included in the final.

ERRATA

1. **Section 3.3.3, Total Petroleum Hydrocarbon Program Investigations, Page 3-7:** This section states that "sampling was conducted at Site 3 within CAA and CAA 3C." The name of the first corrective action area mentioned is incomplete. Please provide the complete name of the CAA.

2. **Section 7.2.1, Comprehensive Environmental Response, Compensation, and Liability Act Investigations, Page 7-6:** The text in the second paragraph states that the types of samples collected and analyses performed during the 1991 investigations were developed based on information gathered in March 1998. Please correct this error.

3. **Section 8.1.1, History, Page 8-5:** The text states that at Former Building 349, "staining and was evident on the pad." Please revise this sentence so that the omitted word is included.

4. **Section 8.5.1, Nature and Extent Conclusions, Page 8-29:** The first paragraph of this section states that there are four principal areas where chemicals appear to have been released to soil, then proceeds to list five areas. Please resolve this discrepancy.

5. **Section 9.2.3.2, Risk Drivers, Page 9-20:** The sentence that states that thallium concentrations in samples collected in 2002 from monitoring wells MW97-2, D03-01, and D04-03 "were the screening level" should presumably read "were below the screening level." Please revise the text accordingly.

GENERAL COMMENTS ON THE HUMAN HEALTH RISK ASSESSMENT

1. The discussions in the risk assessment frequently refer to the "1 x 10^{-4} CERCLA bright line." The use of this term is inappropriate. CERCLA does not specify any absolute risk levels, and EPA uses the general risk range of 10^{-4} to 10^{-6} as a target range within which the Agency determines how best to manage risks, including possible remediation options,

associated with Superfund cleanup actions. As stated in EPA, 1991, "the upper boundary of the risk range is not a discrete line at 10^{-4} in making risk management decisions." Accordingly, please delete all references to the CERCLA bright line.

2. In the 2.x-series tables summarizing chemicals detected at each site, clarify whether the values shown in the column titled "Range of Detection Limits" represent the method detection limits (MDL) or the sample quantitation limits (SQL). For example, Table F-2.3 lists detected 1,1-dichloroethene detected at 0.001 mg/kg, while the range of MDLs is shown to be 0.01 to 0.011 mg/kg. It is not clear how an analyte may be "detected" at a concentration an order of magnitude less than the MDL. Data are typically assigned a J-qualifier to represent an estimated value when the concentration in the sample is greater than the MDL but less than the SQL. As it cannot be reliably demonstrated that an analyte is present if the sample concentration is less than the method or instrument detection limit, assigning an estimated value to such results is questionable.

3. The risk characterization discussions (Section 7) should include a section of cumulative risk from all relevant media and pathways for each receptor population where concurrent exposure is considered likely. As presented, the risk and hazard estimates are presented separately for soil, soil gas, and groundwater exposures, making it difficult to discern total risks and hazards for each of the sites. Please present the cumulative risk for all media and pathways for each receptor population.

SPECIFIC COMMENTS ON THE HUMAN HEALTH RISK ASSESSMENT

1. **Section 4.5.3, Detection Frequency, Page F-14:** EPA does not support the screening of chemicals of potential concern based on frequency of detection when used in conjunction with risk-based screening criteria (i.e., PRGs). Please do not use this approach in the risk assessment.

2. **Section 4.6.2, Tier 1 Evaluation, Page F-16:** The text in this section should clarify that the Regional Water Quality Control Board (RWQCB) screening values for nonchlorinated VOCs were used as is, and were not adjusted upwards by a factor of 10 to account for assumed biodegradation in the vadose zone. The screening values presented in the RWQCB Tables E-1a and E-1b represent output values from the Johnson and Ettinger model that have already been adjusted by a factor of 10. We do not concur with this approach. Screening of detected analytes from quantitative evaluation in the risk assessment should be based on conservative assumptions so that contaminants are not inappropriately screened from further evaluation. Accordingly, the values for nonchlorinated VOCs presented in the RWQCB guidance should be adjusted downward by a factor of 10 prior to the Tier 1 evaluation. Alternately, the more conservative values from EPA's Vapor Intrusion Guidance may be used.

3. **Section 4.7.2, Chemicals of Concern for Groundwater and Soil Gas via Vapor**

Intrusion, Page F-17: The text in the first part of this section is redundant with the text in Section 4.6.2. As such, it is possible to interpret that an additional screening was employed in the selection of contaminants of potential concern (COPCs) for this pathway. As this is not the case, please delete the text in this section.

4. **Section 4.6.2, Tier 1 Evaluation, Page F-16:** The Tier 1 evaluation employed here uses screening values developed by the San Francisco Bay RWQCB to determine whether further analysis of vapor intrusion into indoor air is appropriate. However, the RWQCB screening levels for TCE are calculated using a cancer slope factor that is approximately 60 times less than the slope factor for TCE used in the risk assessments. For purposes of screening, conservative values should be employed so that contaminants are not inappropriately screened from further consideration in the risk assessment. The Tier 1 screening value for TCE should be adjusted such that it is based on the same toxicity criteria used in the risk assessments, and the screening process reevaluated using the revised screening value.

5. **Section 4.7.2.2, Soil Gas Tier 1 and Advanced Tier 1 Evaluation, Page F-19 to F-21:** We do not concur with the decision process used to eliminate contaminants detected in soil gas from further evaluation in the risk assessments. Soil gas samples collected at 1.5 feet bgs are used as a basis for excluding further consideration of the vapor intrusion pathway from the risk assessment even when substantial contaminant concentrations (five orders of magnitude in some instances) were detected in samples collected at 3 to 5 feet bgs. In all such instances it appears that there is no overlying structure at these sampling locations. It seems likely that the shallow (1.5 feet bgs) samples were affected by breakthrough of ambient air and that these samples should be considered unreliable in the absence of further qualitative evaluation. While the depth to groundwater makes soil gas sampling at a depth of at least 5 feet bgs impossible in many instances, the Navy should take into consideration the possibility that such shallow samples are affected by ambient air breakthrough, changes in barometric pressure, and temperature. Further, it is implausible to presume that benzene detected in soil gas concentrations exceeding 132,000 ug/m^3 at 4 feet bgs does not pose a substantial likelihood of migrating into indoor air. To ensure that potential risks associated with intrusion of VOCs into indoor air are properly evaluated in the risk assessment, all locations where VOC concentrations exceeded screening levels in samples collected between 3 and 5 feet bgs should be evaluated for vapor intrusion into indoor air.

6. **Section 4.7.2.3, Indoor Air Potential Current Commercial/Industrial Worker Exposure, Page F-22:** The text discussing occupied buildings at Site 3 is overly repetitive as it discusses the proximity of Building 517 to "impacted groundwater" for Building 517, Building 119, and Building 527. Please discuss the proximity of Buildings 119 and 527 to subsurface VOC contamination. In addition, the conclusion that the potential for vapor intrusion into indoor air is not significant seems to be based on the fact that no groundwater or soil gas samples were collected within 100 feet of the perimeter of the buildings. Lack of sampling is not evidence of lack of contamination.

Revise the text in this section to describe these locations relative to the known extent of VOC contamination in subsurface soil and groundwater at OU-2B.

7. **Section 4.7.2.3, Indoor Air Potential Current Commercial/Industrial Worker Exposure, Page F-23:** The text does not state whether TCE and vinyl chloride were detected above Tier 1 screening concentrations in groundwater. Clarify whether concentrations of TCE and vinyl chloride that exceed Tier 1 screening concentrations were noted in groundwater.

8. **Section 4.7.2.4, Indoor Air Potential Future Residential or Commercial/Industrial Worker Exposure, Page F-23 to E-24:** It is not clear why only a single location, where the maximum concentrations of VOCs in groundwater were detected, was selected for evaluation for residential exposure to VOCs in indoor air. Such an analysis will not provide information on whether other areas of OU-2B are suitable for potential residential reuse without a remedial response to address VOCs in groundwater. An evaluation of risk and hazard associated with potential commercial/industrial and residential reuse should be conducted for each groundwater contaminant plume in OU-2B where VOC concentrations in groundwater exceed screening levels. In addition, as previously noted, use of soil gas results for benzene collected at a depth of 1 foot bgs should not be considered reliable for inclusion in this evaluation.

9. **Section 5.3.2, Summary Statistic and Proxy Values, Page F-31:** The text in this section is poorly written, so it is difficult to interpret the procedures used. Further, the apparent use of inconsistent terminology also makes it difficult to interpret the process the Navy used in calculating summary statistics and exposure point concentrations:

    - The term "samples" is apparently used interchangeably to describe individual sample results as well as sample or data sets. Please clarify.

    - It is not clear why the mean and standard deviation were determined by taking the median values for the mean and standard deviation "generated" during distributional testing. Assuming that a discrete proxy value was used for nondetected results, the mean and standard deviation should only have been calculated on the normal and log-transformed data once.

    - Clarify whether the terms detection limit and reporting limit are used interchangeably in this section. In some instances, the reporting limit is also used to identify the sample quantitation limit. Please use the correct terminology.

    - Clarify in which instances one-half the reporting or detection limit was used as a proxy value for nondetects versus those instances where a simple substitution of the reporting or detection limit was used. Note that it may not be appropriate to use a value of one-half the reporting or detection limit when

using distribution-dependent methods to calculate the 95 percent upper confidence limit on the mean when the same proxy value was not used to determine the distribution, mean, and standard deviation.

- All equations and tables needed to verify calculation of the exposure point concentrations should be included in the RI. As this RI will become part of the public record for this site, it is not appropriate to require extensive access to additional literature. All calculations and other methodology should be completely and clearly presented.

10. **Section 5.4.2, Pathway-Specific Intake Considerations, Page F-33:** Please revise the text in the first complete paragraph to correctly note that the derivation of the particulate emission factor obtained from the Region 9 PRGs assumes that the source area is 50 percent covered by vegetation.

11. **Section 6.1, Reference Doses, Page F-35:** Please revise the text in this section to note that recent revisions to EPA guidance (EPA, 2003) now specify the appropriate hierarchy for obtaining toxicity criteria for use in Superfund risk assessments.

12. **Section 6.3, Route-to-Route Extrapolation, page F-38:** The correct reference for EPA guidance on adjusting oral toxicity values when evaluating dermal exposure is EPA, 2001, not the PRG tables as stated in this section. Please revise accordingly.

13. **Section 6.4, Surrogates, Page F-39:** Please clarify that total chromium toxicity values represent values for trivalent chromium rather than hexavalent chromium.

14. **Section 7.2, Characterization of Cancer Risks, Page F-42:** The discussion in this section and in subsequent site-specific risk assessments of a specific risk management range contradicts EPA Policy on risk characterization (EPA, 1995). In addition, as noted in the text in this section, the goals set out in the NCP are applied once a decision to remediate a site has been made, which is not the case at this point. Further, the referenced EPA directive refers to the role of the risk assessment in remedy selection, and it is not relevant to the presentation of risk and hazard estimates in the risk assessment. In the site-specific risk assessments, delete the references to EPA's risk management range, as the role of the risk assessment is only to provide an unbiased estimate of exposure and associated health risks.

15. **Section 7.5, Site-Specific Risk Characterization Results, Page F-44:** The text in this section states that total risk results are presented in Section 7.5.4. However, Section 7.5.4 discusses only the total risk associated with analytes screened from the risk assessment because concentrations did not exceed residential PRGs, and these risk and hazard estimates continue to be separated according to media. Please correct the reference to this section.

16. **Section 7.5, Site-Specific Risk Characterization Results, Page F-44:** The third paragraph of this section presents contradictory information. It states that the presentation of additional decimals in text and tables is "to facilitate mathematical comparisons" and to avoid "rounding errors," but that the presence of additional decimal places did not imply significance. It is unclear how it is possible to present decimal places in text and tables without them being viewed as significant, particularly when one of the stated purposes is to "facilitate mathematical comparisons." The rationale for presenting risk and hazard estimates to only one significant figure is to avoid the appearance of a greater degree of accuracy than is possible, and the presence of any "rounding errors" must be viewed with this fact in mind. Hence, any attempt at a mathematical comparison using figures that are not significant is misleading, and the presentation of excessive significant figures could be viewed as an attempt to knowingly encourage such comparisons regardless. Consistent with EPA guidance on risk assessment for Superfund (1989), revise the risk assessment such that risk and hazard estimates are presented to one significant figure in all text and tables.

17. **Section 8.1, Uncertainty in Data Reduction, Page F-66:** The text in this section states that including analytes where the maximum detected concentration does not exceed the risk-based screening levels would overestimate risk by including chemicals that are not related to site operations. There are two flaws in this reasoning. First, it implies that all site-related contamination must occur to a sufficient degree that risk-based screening levels would be exceeded, and second, whether or not a contaminant is related to site activities is not relevant to cumulative risk estimates if non "site-related" contamination is proximal to that associated with site activities, resulting in concurrent exposure. Please delete this statement or provide additional clarification.

18. **Section 8.2.3, Estimating Exposure Point Concentrations, Page F-68:** Contrary to what is stated here, EPA, 1989 does not recommend use of one-half the sample quantitation limit for non-detects based on a detection frequency of 85 percent. In addition, no evidence is presented to support the claim that this practice had no significant effect on the risk assessment results. The discussion regarding the selection of exposure point concentrations inappropriately implies that the true site mean concentration *must* be less than the maximum detected concentration. However, this is not the case. Derivation of a 95 percent upper confidence limit on the mean, when based on the apparent distribution, accounts for the variability of the data. Because statistically-based sampling was not performed at Alameda Point, it cannot be determined with any statistical significance whether concentrations greater than the maximum detected concentration are present at the site. If this is the case, use of the maximum detected concentration may in fact underestimate, rather than overestimate, site risk. Please revise this section to present a more fair and balanced discussion of the uncertainties associated with determining exposure point concentrations.

19. **Section 8.2.4.2., Uncertainty in Particlate Emission Factor, Page F-69:** Please correct the text to note that the default particulate emission factor used in the derivation of the

Region 9 PRGs is based on a 50 percent fraction of vegetative cover.

20. **Section 8.3.5.1, Chemicals of Potential Concern with Cal-Modified PRGs, Page F-75:** The term "California carcinogen" is problematic, and we recommend it be deleted, particularly as carcinogenic potential is not limited geographically.

ERRATA

1. **Page F-39:** Change Cis-1,2,-Dichloroethene in the 5th bullet to cis-1,2-Dichloroethene.

2. **Page F-40:** Change N-hexane in the bullet at the top of this page to n-Hexane.

GENERAL COMMENTS ON THE ECOLOGICAL RISK ASSESSMENT

1. The Ecological Risk Assessment (ERA) is referred to as a "modified BERA," in which site-specific assumptions were used. However, without first conducting a screening-level ecological risk assessment (SLERA) using all available data, it is not evident that a site-specific evaluation is warranted. The ERA does not appear to rely on the results of the cited 1999 ERA; instead, it appears that the current report consists of a new screening-level evaluation of data collected in order to fill data gaps identified in the 1999 report. Further, the use of less-conservative exposure assumptions in the report, such as lower exposure point concentrations (i.e., 95 UCL or arithmetic mean) and effects-based toxicity values (i.e. Lowest-Observed-Adverse-Effects Levels) is not appropriate prior to conducting a screening-level assessment in which chemicals of potential concern should be selected by comparing maximum chemical concentrations to chronic (i.e., No-Observed-Adverse-Effect) toxicity benchmarks.

   The current ERA is not acceptable because it does not follow the conservative screening process set forth in EPA Guidance. For example, the comparison to background concentrations is not appropriate as a screening step according to EPA policy, and the lack of sufficiently conservative exposure parameters in food chain modeling calls into question the results of the exposure assessment for wildlife receptors. The ERA should be revised to complete a SLERA (Steps 1 and 2 of 1997 EPA Guidance), in which all data is considered in a Scientific/Management Decision Point and risk managers can decide whether further site-specific evaluation is warranted at any of the sites. Please revise the ERA to follow Steps 1 and 2 of EPA Guidance, incorporating conservative exposure assumptions.

2. The screening steps described in Sections 3.5.6.1 and G.1.2.1 are not appropriate in a conservative, screening-level evaluation of potential ecological risk. Consideration of frequency of detection, background concentrations, and dilution factors should not be incorporated prior to a comparison of the maximum detected concentration (or ½ the detection limit) of each chemical in soil and groundwater to a conservative, media-

specific screening benchmark. Please revise the ERA to provide this conservative screening prior to considering frequency of detection, background, and dilution of groundwater as part of the risk characterization.

SPECIFIC COMMENTS ON THE ECOLOGICAL RISK ASSESSMENT

1. **Section 3.5.6, Ecological Risk Assessment Approach, Page 3-28:** It is unclear why the groundwater to surface water exposure pathway is not considered complete for Sites 3 and 4. This section and Section G.1.2.2.5 state that the aquatic receptor pathway is not considered complete for Sites 3 or 4; Section G.1.2.2.5 implies that groundwater at these two sites does not have the potential to reach Seaplane Lagoon. However, Section G.1.2.2.2 states that groundwater expression is considered a complete pathway for evaluation purposes, and the ERA evaluates COPECs for groundwater at OU2-B (Sections G.1.2.1.2 and Section G.2.4).

   It appears that the aquatic receptor pathway should be considered complete for Sites 3 and 4. Moreover, according to the Draft Storm Sewer Study, Sites 3 and 4 at one time contained damaged sewer lines and/or points of infiltration. Since storm sewer bedding can act as a preferential pathway, OU2-B is in close proximity to Seaplane Lagoon, and 4 special status fish potentially exist at this site, please revise the ERA to consider the aquatic receptor pathway complete for all 4 sites.

2. **Section 3.5.6.1, Screening for Chemicals of Potential Ecological Concern, Page 3-29:** It is unclear which depth interval was used to estimate risk. The text in Section 3.5.6.1 states that soil data for each site were aggregated at a depth interval of 0 to 4 ft bgs, yet Tables G-27 through G-30 suggest that hazard quotients were calculated for "surface soil." Please provide further rationale for evaluating the 0-4 foot bgs depth interval.

3. **Section 3.5.6.5, Uncertainty, Page 3-36:** The text states that background metals and ambient levels of pesticides were considered. However, it doesn't appear that ambient levels of pesticides were considered as part of risk characterization, and no data is presented regarding ambient concentrations. Please remove the mention of ambient levels of pesticides from the text.

4. **Section G.1.1, Scope, Page G-2:** The ERA implies that its use of conservative assumptions minimizes the probability of underestimating ecological risk. The assumptions in this RI are not consistent with the conservative approach typically employed during a SLERA. For example, EPCs used in this evaluation were the lower of the maximum detected concentration or the 95 percent upper confidence limit (UCL 95) concentration, and food chain modeling incorporates non-conservative assumptions. Please remove this statement from the ERA as it misleads the reader.

5. **Section G.1.2.1, Screening for Ecological Chemicals of Potential Concern, Page G-2:** The text states that the UCL 95 was used as the exposure point concentration (EPC) for most chemicals. However, in the absence of an extremely robust data set, the maximum concentration should be used as the EPC to select and evaluate chemicals of potential concern. Please revise the ERA to use the maximum detected concentration as the EPC.

6. **Section G.1.2.1.1, Identification of Ecological Chemicals of Potential Concern in Soil, Page G-3 and Section G.1.2.1.2, Identification of Ecological Chemicals of Potential Concern in Groundwater, Page G-4:** It is not appropriate to screen for COPECs based on frequency of detection, background concentrations, or dilution factors prior to completing a SLERA. Revise the ERA to evaluate all detected chemicals (½ the detection limit of non-detected chemicals) and remove the screening steps based on frequency of detection, background, and dilution as "screening steps."

7. **Section G.1.2.2.4, Development of Toxicity Reference Values for Soil, Page G-9:** The use of high Toxicity Reference Values (TRVs) is not appropriate in estimating exposures in a screening-level evaluation. The ERA should be revised to omit high TRVs from the initial risk calculations because they do not yield the most conservative estimate of potential effects.

8. **Section G.1.2.2.4, Development of Toxicity Reference Values for Soil, Page G-10:** Body weight extrapolations were employed to adjust TRVs for wildlife receptors. The current recommendation from the Region 9 Biological Technical Assistance Group (BTAG) is that allometric scaling of TRVs be conducted only when the body weight of the test species used to develop the TRV is more than two orders of magnitude greater than the target receptor in the ERA. Thus, please remove the extrapolations from the RI.

9. **Section G.1.2.2.6, Selection of Assessment and Measurement Endpoints, Page G-11, and Section 3.5.6.2, Problem Formulation, Page 3-32:** "Direct exposure to soil" is considered a complete pathway, but lower-trophic-level receptors such as plants and invertebrates are not included as assessment endpoints. Please revise the SLERA to include an initial screening step that compares maximum site concentrations to readily-available media-specific screening benchmarks for plants and/or invertebrates.

10. **Section G.1.2.2.6, Selection of Assessment and Measurement Endpoints, Page G-11:** This section does not present adequate justification for selecting the California ground squirrel while other small mammals are potentially present at the site which are threatened or endangered. For example, the Alameda vole appears to satisfy 2 out of the 3 criteria for selecting a measurement endpoint. Also, 4 special status fish are potentially present at this site, yet no marine receptors were selected. There are a number of special status species potentially present at this site (See Tables G-1 and G-2) which were not selected as endpoints. Please incorporate a discussion of special status species into the selection of assessment endpoints.

11. **Section G.1.2.3.1, Development of Exposure Estimates, Page G-14:** The selected exposure factors are not sufficiently conservative in estimating risk in a screening-level evaluation. Please revise the exposure estimates to incorporate the maximum ingestion rate, minimum body weight, and ingestion of 100% of the most contaminated food item for all receptors in order to comport with 1997 EPA ERA Guidance.

12. **Section G.1.2.5, Uncertainties, Page G-21 and Section 5.5.3, Recommendations, Page 5-33:** The statement that many assumptions used in the SLERA are conservative and result in an overestimate of risk is misleading. Please revise the uncertainties sections to discuss sources of uncertainty that could contribute to the underestimation of risk, and the statement that "risks are overestimated" should be removed from the ERA.

13. **Section 9.2.6.1, Chemicals of Potential Ecological Concern in Groundwater, Page 9-25:** It is unclear which groundwater data was evaluated in the ERA. Section 3.5.6.1 states that groundwater data collected between 1994 and 2001 were used, yet Section 9.2.6.1 states that "the most recent groundwater sampling data" were used in the ERA. Please resolve this discrepancy.

14. **Section 3.5.6, Ecological Risk Assessment Approach, Page 3-31, Section 9.2.6.3, Assessment Results for Groundwater, Page 9-25, and Section G.2.4, Results of the Ecological Risk Assessment for Marine Receptors, Page G-50:** The approach used to evaluate exposure to chemicals detected in groundwater pose is not appropriate. Hazard quotients were calculated by dividing the measured concentration by a dilution factor of 10, but there is no technical justification or qualitative discussion to justify this dilution factor. The text on page 3-31 states that the use of a default dilution factor of 10 is suitable because "many of the groundwater monitoring wells are located more than 100 feet from the San Francisco Bay." However, the ERA does not discuss the range of distances between wells and the shoreline, nor does it mention the extent of groundwater communication with surface water.

    The justification for a dilution factor of 10 is not sufficient. The ERA should be revised to calculate Hazard Quotients for groundwater COPECs by directly comparing groundwater concentrations to the most conservative chronic surface water criteria without assuming a dilution factor. A qualitative discussion of the distance between groundwater wells from the shoreline, and tidal influence to groundwater can follow this original conservative screening step.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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MEMORANDUM

To: Anna Marie Cook (H-8-3)
Remedial Project Manager

From: Sophia Serda, PhD (H-8-4) Sophia Serda Ph.D.
Regional Toxicologist

Subject: Draft Remedial Investigation Report for Sites 3,4,11 & 21, Operable Unit 2B, (OU 2B), Alameda Point, California Dated March 31, 2004.

Date: May 25, 2004

General Comments

1. Human Health Risk Assessment Rejected. Suggest the Navy use the Human Health Risk Assessment for IR 28 Todd Shipyard as a model to be followed for the Human Health Risk Assessment at OU2B and all future Human Health Risk Assessments for Alameda Point.

2. In Appendix F, the Risk Assessment focuses on data reduction rather than assessment of risk. The methodology used to deselect detected chemicals is not warranted. All detected chemicals must be used to quantify risk.

3. The human health risk for the future resident does not include ingestion of homegrown produce. Soil risks for the future resident are underestimated!

4. Data collected for OU2B are not included in the risk assessment. In most cases it is unclear why certain data were not used.

Have questions call me at 415-972-3057.