

11/8/96 - 00503



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY - REGION II

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NOV 08 1996

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED



S. J. Pena  
Commander, CEC, U.S. Navy  
Public Works Officer  
U.S. Naval Station Roosevelt Roads  
TSC 1008 Bcx 3001  
Code NO  
FPO AA 34051-3001

Re: Draft RCRA Facility Investigation (RFI) Report for Operable  
Units 1, 6, and 7,  
Naval Station Roosevelt Roads  
RCRA/HSWA Permit No. PR2170027203

Dear Commander Pena:

The United States Environmental Protection Agency (EPA) Region II has reviewed Volumes I and II of the July 1996 Draft RFI Report for Phase I investigations at Operable Unit 1, 6, and 7 SWMUs/AOCs (transmitted by Baker Environmental, your consultants, on July 30, 1996), and all conclusions and recommendations therein. However, EPA has not completed its review of the data validation reports for the analytical results included with the draft RFI report, but will comment on the usability/acceptability of the analytical results when our data validation review is completed, expected by late November.

Nevertheless, based on our review of Volumes I and II of the July 1996 Draft RFI report, EPA requires that they be revised to address the following, and enclosed, EPA comments. These review comments (and those given in the enclosed Technical Review dated October 16, 1996) are predicated on the assumption that the analytical results submitted for Operable Unit 1, 6, and 7

SWMUs/AOCs will be judged acceptable following EPA's data validation review. Accordingly, EPA reserves its right to revise and/or add to our comments, should EPA not concur with the RFI report's determinations as to the useability of the analytical results submitted.

1) The conclusion for the SWMU #6/AOC B area (buildings 145 and former Public Works Department building) given in Section 7.2 (page 7-19) that no unacceptable risk is posed by the site (even though a potential human health risk is calculated for future residents) since "[t]here are no plans to utilize the area for residential development, nor is any scenario for this reasonable, considering its location", is unsubstantiated. The Navy has submitted no documentation (deed restriction, etc.) that, at some point in the future, this site could never be redeveloped for either military or civilian residential usage, or similar usage such as a school or child care center. Accordingly, EPA does not concur with the recommendation given in section 7.2 (page 7-20) that "no further site characterization or corrective measures efforts appear warranted at this site."

Numerous exceedances of EPA Region III residential or industrial risk based concentrations (RBCs) in surface and subsurface soils at the SWMU 6/AOC B area indicate environmental releases have occurred. These exceedances are as follows (the surface soil metals results are from Table 5-2, apparently mislabeled as subsurface):

\* Arsenic exceeded the Region III carcinogenic residential RBC in all 12 of the surface soil samples, and the carcinogenic industrial RBC in 5 of the 12. Also, arsenic exceeded the carcinogenic residential RBC in 4 of 14 (at 8 locations) subsurface samples;

\* Beryllium exceeded the residential RBC in 9 of the 12 surface soil samples, and in 5 of 14 subsurface samples;

\* Pesticides (DDE, DDD, and DDT) were detected above their industrial RBCs in 1 of 12 surface samples, and (at the same location as the surface exceedance) above their residential RBC in 1 of 14 subsurface samples;

\* Dioxin congeners were detected above their industrial RBC in 2 surface soil samples;

\* Benzo(a)pyrene exceeded its industrial RBC in 1 surface soil sample and the residential RBC in 4 other surface samples.

③ EPA requests additional surface and subsurface soil sampling to complete characterization of the full extent of soil contamination at the SWMU 6/AOC B area. Furthermore, the Human Health Risk Assessment (HHRA) must then be based on results following full characterization of the contamination.

④ Also, the Incremental Lifetime Cancer Risks (ILCRs) and Hazard Indices (HIs) submitted for both current on-site worker exposure and future residential exposure for soils at the SWMU 6/AOC B area did not include dioxin as a chemical of potential concern (COPC), even though 2 dioxin congeners exceeded their industrial RBCs in 2 surface soil samples. Following the additional sampling for full site characterization, the ILCRs and HIs for both current on-site worker exposure and future residential exposure to soils should be recalculated, and include dioxin as a COPC.

⑤ In addition, groundwater at the SWMU 6/AOC B area appears to be impacted by releases. In the two groundwater samples collected (three were required by the September 1995 approved work plan), 7 metal constituents exceeded either their MCL or Tap Water RBC in one sample and 3 in the other groundwater sample. Also, the pesticide DDE exceeded the Ambient Water Quality Standard in one groundwater sample. Yet, there was no assessment of possible environmental impacts for groundwater at the SWMU 6/AOC B area. Even though there may be no groundwater usage in the area, the potential for environmental, or possible human health, impacts from discharges of contaminated groundwater to the surface waters of Ensenada Honda/Puerca Bay must be evaluated, following full characterization.

⑥ As indicated above, the draft RFI report states (section 4.8.1.1) that the third groundwater investigation well required for the SWMU 6/AOC B area by the September 1995 approved RFI work plan "...was eliminated [unilaterally by the Navy] from the scope of work due to the proposed location being adjacent to an existing

6 Cont. X  
IR site 10 well, 10GW03". Pursuant to Condition B.8.(d) of Module III of the 1994 RCRA/HSWA Permit, "All plans and schedules required by the conditions of this Permit Module and Appendix C [Compliance Schedule] of this Permit are...incorporated into this Permit by reference and become an enforceable part of this Permit. Any noncompliance with such approved plans and schedules shall be termed non-compliance with this Permit."

7  
Nevertheless, EPA will evaluate whether well 10GW03 fulfills the requirements of the approved work plan. However, well 10GW03 must be sampled concurrently with the existing two [RFI] wells for the complete analyte list specified in the September 1995 RFI work plan. In addition, current groundwater elevations (corrected to a standard datum) for all 3 wells, with contours, must be shown on the SWMU 6/AOC B maps (such as Figures 4-1, etc.) to determine flow/gradient direction. Also, the analytical results from this and the existing two RFI wells must then be incorporated into an assessment of environmental, and possible human health, impacts from discharge of contaminated groundwater from the SWMU 6/AOC B area to the surface waters, as discussed above.

2) EPA considers the groundwater investigations at SWMU #10 (Substation 2) inadequate. The September 1995, EPA approved, RFI work plan required 4 groundwater wells to investigate for PCBs, since sampling performed during previous interim corrective measures at this SWMU had established that PCB contaminated soils extended to depths of 4 feet below surface at places within the SWMU. Section 4.8.1.2 of the Draft RFI report indicates that only 3 of the 4 required ["Hydropunch"] wells could be completed, and that groundwater from only 1 (well 10HP02) of the 3 wells was analyzed for PCBs, the primary constituent of concern (based on extensive PCB soil contamination previously remediated at this site). The other 2 sampled wells were analyzed for volatile organic constituents only (instead of the volatiles, semivolatiles, and PCBs as required by the approved work plan), and any detections of these were described as likely laboratory artifacts.

Since PCBs at elevated concentrations were found to be present in soils to depths of 4 feet below ground surface during previous interim corrective measures at this SWMU, one groundwater sample is not sufficient basis for EPA to concur with the no further

action recommendation made in Section 7.1.2 (page 7-2) of the Draft report. In that section, the Navy states that since the depth to bedrock is shallow in the area of the SWMU and there is no groundwater usage between the site and Ensenada Honda, a no further action recommendation is justified based on only 1 sample.

In addition, while the bedrock may be shallow, the investigations have not demonstrated that it lacks sufficient transmissivity to permit groundwater flow. Rather, the Navy was unsuccessful in penetrating sufficient water bearing strata (unconsolidated or bedrock) with the "Hydropunch" to adequately characterize the presence or absence of PCBs in groundwater in the uppermost water bearing strata (unconsolidated/bedrock). Therefore, the potential for environmental, or possible human health, impacts from PCB contaminated groundwater discharges to the surface waters of Ensenada Honda has not been fully evaluated. EPA requests the Navy to submit a program to install 3 bedrock investigation wells at SWMU 10 and sample the groundwater for the analyte list in the September 1995 approved RFI work plan. This work is necessary to complete groundwater characterization, since the previous "Hydropunch" investigations were not adequate.

① 3) The rationale for not performing a Human Health Risk Assessment (HHRA) for residential exposure at SWMU #26 (building 544 area) is unacceptable. The Navy asserts that this site, which is currently an unused area, would never be utilized for residential usage; however, the Navy has submitted no documentation (deed restriction, etc.) that, at some point in the future, this site could never be redeveloped for either military or civilian residential usage, or similar usage such as a school or child care center. Yet, this site would not be subject to any regulatory [environmental] clean-up if its usage changed in the future.

② Also, the recommendation given in section 7.1.9 (page 7-8) that "there is no need for further site characterization or corrective measure evaluation at this SWMU" is unacceptable. Of the 5 surface soil samples required at this SWMU, three had arsenic concentrations above the residential risk based concentration (RBC), and a different set of 3 had beryllium above the residential RBC; therefore, in all 5 of the samples collected there was an exceedance of a residential RBC.

2 Cont

Based on the frequency of exceedances of residential RBCs (5 out of 5 samples collected), along with the fact that various semi-volatile hazardous constituents (total of 9 different constituents) were detected in all 5 of the samples, EPA concludes that a release has been confirmed at SWMU #26. Therefore, pursuant to Section A.4(iii) of Module III of the 1994 RCRA/HSWA Permit, a full RFI is required to fully characterize surface and subsurface soils at this site. Section 7 of the draft RFI report must be revised to reflect that additional site characterization (both surface and subsurface soils) is needed, and a full HHRA (including evaluation of possible future residential exposure) following complete site characterization. EPA requests that work plans to be submitted for SWMU #26 include not only surface soils, but also subsurface soil sampling, to a depth of approximately 3 feet below ground surface. The work plan for the additional surface and subsurface sampling at SWMU #26, including an implementation schedule, must be submitted within 45 days of your receipt of this letter.

4. The Human Health Risk Assessments (HHRAs) for SWMUs #31 (uncontrolled storage at buildings 31/2022 area) and #32 (battery collection area) are not complete. Exceedances of residential RBCs at SWMU #31 include: a) PCBs (1 of 4 samples) and arsenic (2 of 4 samples) in surface soils at building 31; b) beryllium in surface soils (4 of 4 samples) and subsurface soils (4 out of 8 samples) at building 2022, and c) PCBs (1 of 4 samples) and arsenic (3 of 4 samples) in surface soils at SWMU #32. Even though HHRAs were performed for on-site workers (current), the HHRAs did not consider future residential usage. The Navy has submitted no documentation (deed restriction, etc.) that, at some point in the future, these sites could never be redeveloped for either military or civilian residential usage, or similar usage such as a school or child care center. The draft RFI report should be revised to include an HHRA evaluation for possible future residential exposure at SWMUs #31 and #32.

① 5. EPA cannot accept the conclusion for SWMU #46 (Pole Storage Yard) given in Section 7.1.15 (page 7-15) that no unacceptable risk is posed by the site (even though a potential human health risk is calculated for future residents) since "The site is not amenable to development as a residential area." The Navy has submitted no documentation (deed restriction, etc.) that, at some point in the future, this site could never be redeveloped for

1 cont either military or civilian residential usage, or similar usage such as a school or child care center.

2 Nor can EPA accept the recommendation (page 7-16) that "Therefore, there are no further site characterization or corrective measures evaluation efforts required for this SWMU." Surface soils were found to contain PCBs exceeding industrial and/or residential RBCs in 8 of the 9 locations sampled (maximum PCB concentration 3.6 mg/kg) during the Phase RFI investigations. In fact, the draft RFI report states on page 7-15 that "The findings of the Phase 1 RFI indicate that releases from the unit have occurred." EPA concurs. Therefore, pursuant to Section A.4(iii) of Module III of the 1994 RCRA/HSWA Permit, a full RFI is required to fully characterize surface and subsurface soils at this site. Section 7 of the draft RFI report must be revised to reflect that additional site characterization (both surface and subsurface soils) is needed, and a full HHRA (including evaluation of possible future residential exposure) following complete site characterization. EPA requests that work plans to be submitted for SWMU #46 include not only surface soils, but also subsurface soil sampling, to a depth of approximately 3 feet below ground surface. The work plan for the additional surface and subsurface sampling at SWMU #46, including an implementation schedule, must be submitted within 45 days of your receipt of this letter.

3 6. Surface soils at AOC C (transformer storage pads behind building 2042) were found to contain PCBs exceeding industrial and/or residential RBCs in 6 of the 12 surface soil samples collected (maximum PCB concentration 5200 mg/kg) during the Phase 1 RFI investigations. However, the Navy has subsequently (reference the Navy's letter of July 10, 1996) reported that during a maintenance operation at this unit, up to 1 foot of surface soil (i.e., the soil that was sampled during the RFI Phase 1 investigations) was inadvertently excavated, and is now stock-piled at the unit awaiting RCRA/TSCA waste characterization and appropriate disposal. Therefore, the Navy recommends, in section 7.0 of the draft RFI report, that the [present] surface soils at AOC C be re-characterized.

2 EPA, however, concludes that a release has in fact been confirmed at AOC C, based on the frequency of PCB exceedances of industrial and/or residential RBCs (6 out of 12 samples collected) in the now removed surface soils, plus the elevated concentrations found in two of the samples (5200 mg/kg in ACSS05D and 140 mg/kg in ACSS02). Therefore, pursuant to Section A.4(iii) of Module III of the 1994 RCRA/HSWA Permit, a full RFI is required to fully characterize surface and subsurface soils this site. EPA requests that work plans to be submitted for AOC C include not only "re-characterization" of the [present] surface soils, but also subsurface soil sampling, to a depth of approximately 3 feet below present ground surface. The work plan for the additional surface and subsurface sampling at AOC C, including an implementation schedule, must be submitted within 45 days of your receipt of this letter.

7. SWMU #25 (the DRMO storage yard) had several exceedances of residential RBCs in surface soils (arsenic in 3 of the 9 samples; and 2 semivolatile constituents in 2 of the 9 samples). HHRA calculations for on-site workers found no excessive risk. No HHRA was performed for possible future residential exposure; however, unlike our above comments for other SWMUs (regarding the lack of HHRAs for possible future residential usage), SWMU #25 is associated with (though not directly part of) the base's two permitted Hazardous Waste Container Storage Areas (HWCSAs). Therefore, if necessary in the future, clean-up of SWMU #25 to residential requirements, could be tied to closure of the 2 HWCSAs (which are located inside the DRMO complex), unlike the other SWMUs discussed above (which are not associated with permitted units). In addition, SWMU #25 (unlike the other above SWMUs/AOCs that lack residential HHRAs), is entirely within a fenced-in area (the DRMO yard), whose current usage is well defined and expected to stay the same for the future.

8. In addition to showing the Ensenada Honda sediment sample locations (AOC D) on individual maps for the SWMUs which they are associated with (reference Figures 4-14, 4-15, 4-16, 4-17, and 4-18), the RFI report should also include a unified AOC D map, similar to Figure 1-1, showing all sediment sample locations that were sampled pursuant to requirements for AOC D (Ensenada Honda marine sediments).

9. Besides the additional work EPA requires at those SWMUs/AOCs discussed previously, the draft RFI report recommends further investigations for the AOC D areas (marine sediments) associated with possible releases from SWMU #2 (Langley Drive Disposal area) and SWMU #11/#45 (the old power plant cooling water tunnels). Also, the draft RFI report recommends additional investigation at SWMU #13 (former pest control building 258). EPA concurs, and requests that complete work plans for these additional investigations, including implementation schedules, be submitted within 45 days of your receipt of this letter.

In addition, please submit, within 45 days of your receipt of this letter, a revised draft RFI report for Phase I investigations at Operable Unit 1, 6, and 7 SWMUs/AOCs to fully address the above comments plus all additional comments given in the enclosed Technical Review dated October 16, 1996.

Please contact Mr. Tim Gordon of my staff, at (212) 637-4167 regarding any questions.

Sincerely yours,



Nicoletta DiForte, Chief  
Caribbean Section

Enclosure

cc: Mr. Sindulfo Castillo, NAVSTA Roosevelt Roads  
Mr. Israel Torres, EQB  
Mr. Christopher T. Penny, LANTDIV Code 1823  
Mr. Douglas Sullivan, A.T. Kearney, Inc.

NAVAL STATION ROOSEVELT ROADS  
CEIBA, PUERTO RICO

TECHNICAL REVIEW OF  
RCRA FACILITY INVESTIGATION REPORT  
FOR  
PHASE I INVESTIGATIONS AT OPERABLE UNITS 1, 6, AND 7,  
DATED JULY 1996

Submitted to:

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Regional Project Officer  
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October 16, 1996

(revised by EPA October 30, 1996)

NAVAL STATION ROOSEVELT ROADS  
CEIBA, PUERTO RICO

TECHNICAL REVIEW OF  
RCRA FACILITY INVESTIGATION REPORT

FOR

PHASE I INVESTIGATIONS AT OPERABLE UNITS 1, 6, AND 7,  
DATED JULY 1996

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## 1.0 INTRODUCTION

The U.S. Environmental Protection Agency (EPA) has requested that the A.T. Kearney Team (Kearney Team) provide support to the Agency under Work Assignment No. R02020 for technical review of documents associated with the RCRA Facility Investigation (RFI) of the U.S. Naval Station Roosevelt Roads (NSRR) located in Ceiba, Puerto Rico.

The NSRR is located on the east coast of Puerto Rico in the municipality of Ceiba, approximately 33 miles southeast of San Juan. The primary mission of NSRR is to provide full support for the Atlantic Fleet weapons training and development activities. NSRR is currently operating under a Draft RCRA Corrective Action Permit that includes varying degrees of work at 28 Solid Waste Management Units (SWMUs) and three Areas of Concern (AOCs).

The objective of this Work Assignment is to assist EPA with the evaluation of the *Draft RCRA Facility Investigation (RFI) Report for Phase I Investigations at Operable Units 1, 6, and 7, July 1996*, prepared by Baker Environmental, Inc. The Baxter document is designed to provide a summary of activities and findings completed during the Phase I RFI investigation activities at Operable Units 1, 6, and 7. The report consists of two volumes. Volume I contains eight sections describing the environmental setting, facility background, investigation activities and results, health and environmental risk assessments, and conclusions and recommendations. Volume II consists of appendices which present supporting information including summarized analytical results, slug test data results, toxicological profiles, and human health risk calculations.

This report presents the findings of the Kearney Team's technical evaluation. Section 1.0 of this report discusses the scope of this technical evaluation. Section 2.0 identifies the methods and objectives of this technical evaluation. Section 3.0 presents general comments and Section 4.0 provides page-specific comments.

## 2.0 METHODOLOGY

Pursuant to the EPA Work Assignment Manager's (WAM's) Technical Directives dated August 1, 1996 and August 12, 1996, the Kearney Team reviewed Sections 5, 6, and 7 of Volume I, and Appendices C, E, and F contained in Volume II to evaluate technical adequacy of the findings, interpretations, and conclusions and recommendations. Section 4 (Volume I) review comments were provided by EPA. As directed by EPA, the Kearney Team's review did not include issues regarding data validation.

As requested by the EPA WAM, the Kearney Team communicated preliminary findings to EPA via teleconference on October 1,

1996. During the teleconference, EPA approved the preliminary findings and requested that the Kearney Team complete the review and finalize findings in this report.

### 3.0 GENERAL COMMENTS

The Ecological Risk Assessment provided in the report identified three SWMUs which are of particular ecological concern: SWMU 13 (Old Pest Control Shop), AOC D-SWMU 2 (Langley Drive Disposal Area), and AOC D-SWMU 11/45 (Old Power Plant/Building 38). Based on the detected concentrations of sediment contaminants, these three areas present the greatest ecological concern. The remaining SWMUs appear to present a low potential to adversely affect ecological receptors.

**SWMU 13:** The report recommends additional sampling within the drainage ditch associated with SWMU 13 due to the elevated levels of pesticides (DDT and its derivatives) detected. The additional sampling would identify the extent of contaminant migration from the site. In addition, downgradient monitoring wells are proposed to determine if contamination has migrated to the water table. These recommendations are acceptable and should be implemented.

**AOC D (SWMU 2 portion):** The recommended additional sediment characterization should be implemented to determine the source of the environmental contamination within the sediments. The additional sediment samples should include the harbor side of the mangroves, as well as additional shoreline areas located south of 2SD03 to determine the extent of contamination. Due to the detection of metals (copper, lead, mercury, and zinc) at concentrations above ER-M guidelines, it is also recommended that sediment characterization include acid volatile sulfide (AVS) and simultaneously extractable metals (SEM) analyses. These results would indicate whether the metals detected within the sediments are bioavailable to ecological receptors.

**AOC D (SWMU 11/SWMU 45 portion):** Additional sediment samples are proposed to be collected from the vicinity of the intake tunnel from Puerca Bay. The additional sediment sampling should also be analyzed for total organic carbon within the sediments so that sediment effect-levels utilizing the equilibrium partitioning approach can be calculated for the elevated polycyclic aromatic hydrocarbons (PAHs).

### 4.0 PAGE-SPECIFIC COMMENTS

① Page 4-14 & 4-15, Section 4.8.2.3  
A portion of the description of the sampling at SWMU 3, the Base Landfill, is missing. The text at the bottom of page 4-14 refers to SWMU 2, then begins at the top of page 4-15 with "apparently

has been receiving fill to extend the shoreline away from the CPO Hut." Nothing precedes this, including a heading indicating the text is now apparently in Section 4.8.2.3, on SWMU 3.

2 Figure 4-16

An explanation must be given for deleting the two sediment sampling points on the northeast flank of SWMU 3, between sample location 3SD01 and 3SD04. The text does not elaborate, but this deletion resulted in no sediment data points along the approximately 2800 feet of strand line between the 3SD01 sample point and the 3SD04 sample point.

3 Page 5-13, ¶6, Section 5.2.1.5

This section should reference the TEF discussion presented in Section 6.2.3.5. In addition, the Navy needs to explain why toxic equivalent dioxin RBCs were not included in all Section 5 tables. See table-specific comments below.

4 Page 5-14, ¶2, Section 5.2.1.5

The text notes that tap water RBCs and MCLs were not exceeded for AOC B/SWMU 6. Table 5-5 indicates several RBC and MCL exceedences. The Navy must provide justification as to why ground water at this AOC/SWMU was not carried through the quantitative risk assessment.

5 Page 5-38, ¶1, §5.3.6.4

The text should be revised to note that concentrations of copper, lead, mercury, and zinc detected at sample locations 2SD02 and 2SD03 exceeded ER-M values in addition to ER-L sediment guidelines. The text should note that the exceedance of ER-M guidelines indicates that adverse effects to benthic fauna are possible.

6 Section 5 Tables

The text and tables should be expanded to note the rationale for selecting 61,000,000 ug/kg and 2,300,000 ug/kg as the industrial and residential soil RBCs for phenanthrene and benzo(g,h,i)perylene.

7 Table 5-2

Should be labeled Surface Soil, not subsurface.

8 Table 5-9, Table 5-24, Table 5-39

Table 5-9 (SWMU 13 Surface Soil), Table 5-24 (SWMU 31 Surface Soil), and Table 5-39 (AOC C Surface Soil) incorrectly note that Region III industrial or residential soil RBC for dioxins are not available. Table 5-1 correctly lists the dioxin RBC. The appropriate value needs to be included in Table 5-9, Table 5-24, and Table 5-39 and exceedances need to be appropriately highlighted. As a result, dioxins will be selected as contaminants of potential concern (COPCs) at SWMU 13, SWMU 31, and AOC C and will need to be carried through the quantitative

risk assessment.

9) Table 5-15  
The Navy must clarify the relationship of results reported on pages 1 and 2 of Table 5-15 compared with pages 3 and 4 of the same table (where the same constituents, same samples, and same dates are shown as on pages 1 and 2, yet on pages 3 and 4 all constituents are listed as NA, not analyzed).

10) Table 5-18  
The table is incorrectly titled surface soils. It should be sediments.

11) Table 5-42, Page 2  
Provide the source of the industrial and residential RBCs for PECDD, HXCDD, and HXCDF of 0.9 ug/kg and 0.1 ug/kg, respectively. These values are inconsistent with the Region III dioxin RBC and with values presented in Table 5-1.

12) Page 6-1, Section 6.0  
The list of SWMUs/AOCs is not consistent with that presented in Section 1.0 of the Phase I RFI Report. Specifically, SWMU 12 and 14 are not listed. In addition, Section 6.0 must clarify that SWMU 6 is located within AOC B.

13) Page 6-2, ¶5, Section 6.2.1  
The description of environmental media investigated does not include groundwater in SWMU 10. This section should describe the full extent of the RFI regardless of whether certain media are carried through the quantitative risk assessment. Revise the text accordingly.

14) Page 6-3, ¶2, Section 6.2.1  
The rationale for not considering leaching-based soil criteria needs to be clarified. The rationale that it is unlikely that groundwater will ever be utilized for potable use is inconsistent with the use of residential RBCs for the groundwater evaluation.

15) Page 6-6, ¶2, Section 6.2.2.1  
SWMU 30 is identified as the only SWMU investigated for possible groundwater contamination. Groundwater was also investigated at SWMU 6/AOC B and SWMU 10. Additional text needs to be added to explain why ground water at these SWMUs were not carried through the risk assessment.

16) Page 6-7, ¶2, Section 6.2.2.1  
Excavation workers are assumed to be exposed to subsurface soils only. It is more realistic to assume that excavation workers could be exposed to any soils to a depth of 15 feet, including the more shallow surface soils. The surface and subsurface soil data should be combined to evaluate excavation worker exposures/risks and the assessment should be revised accordingly.

17 Page 6-9  
The text should be revised to present the rationale for evaluating inhalation risks using inhalation RfDs and inhalation slope factors since current guidance recommends evaluating inhalation risks based on exposure concentration. The text should also discuss uncertainties associated with using inhalation slope factors in evaluating volatile and fugitive dust emissions.

The Navy should provide a reference for the inhalation RfD provided in Appendix N Table 44 for beryllium since there is no RfC/RfD for beryllium in IRIS or HEAST and Table 6-8 of the RFI report does not list an inhalation toxicity value for beryllium.

18 Page 6-15, ¶1, Section 6.2.3.1  
The last sentence in this paragraph is confusing in that it implies that the RfC is a dose versus a concentration. Please correct.

19 Page 6-16/ Table 6-8  
The Region IV default values that are cited should also be referenced. In addition, the source of each of the absorption values presented in Table 6-8 needs to be included.

20 Page 6-20, ¶3, Section 6.2.4.3  
Several SWMUs investigated as part of the RFI activities are not discussed in this section -- specifically, SWMUs 12, 14, 25, and 32. Exceedances of residential and/or industrial RBCs were found at SWMUs 25 and 32.

21 Page 6-21 ¶1, Section 6.2.4.3.1  
For clarity, the text should be reorganized to clearly state which AOC D SWMUs (i.e., SWMUs 1, 2, 3, 7, and 11) were evaluated and found to drive risk. Individual AOC D SWMUs are discussed at times with no reference to AOC D in some of the text (e.g. pages 6-21 and 6-22) and then discussed collectively in other places (page 6-28). It appears based on the data presented in Table 137 that maximum concentrations detected in any of the AOC D SWMUs were used to evaluate the potential future residential scenario but for all other scenarios AOC D SWMUs were evaluated individually. Please verify and provide rationale.

22 Table 6-1  
Justification needs to be provided as to why dioxins were not retained as COPCs for AOC B surface soils. Table 5-1 indicates that detected dioxin concentrations exceeded industrial and residential RBCs.

23 In addition, dioxins should be retained at SWMUs 13 and 31 (see Comments to Tables 5-9 and 5-24). SWMU 31 is designated as requiring no further action; however, dioxin concentrations reported in Table 5-24 range from ND to 43 ug/kg in surface

soils. Detected concentrations of dioxins must be further evaluated and carried through the quantitative risk assessment.

24 Page 7-9, ¶2, §7.1.9

The Conclusion section should be expanded to indicate whether the data suggest a release has occurred.

25 Page 7-13 ¶5, §7.1.13

Given the high potential for continuing or future releases at SWMU 37, the recommendation should be expanded to indicate that alternatives to mitigate future release incidents will be considered.

26 Page 7-20, ¶4, §7.3

The text discussing SWMU 2 must be revised since several metals concentrations exceed NOAA ER-M guidelines and, therefore, are not within a normally expected range.

27 Page 7-22, ¶4, §7.3

The report concludes that any proposed remedial actions within the mangrove areas would result in more damage than leaving the sediments posing low risk in place. Based on the information presented, the majority of the sediments within Ensenada Honda do not appear to pose a significant ecological risk, except as noted at SWMU 11 and particularly at SWMU 2. Sediment concentrations of metals at SWMU 2 are above ER-Ms indicating adverse effects are possible. The conclusions regarding remediation at this SWMU should be deferred until the proposed additional sediment characterization has been conducted.

28 Page 7-22, ¶5, §7.3

The report states that it is unknown if the observed contamination within the sediments adjacent to SWMU 2 are related to the SWMU or past oil spills. It appears that the elevated metals concentrations detected within the SWMU 2 soils indicate that this SWMU is likely to be a source for the elevated metals levels. However, additional investigations within this area should provide additional insight into the source of the metals contamination.

29 Appendix C - Slug Test Data

Based on the information presented in Appendix C, the slug test data from location ACBMW03 may be suspect. The data from ACBMW03 appear to indicate two distinct responses: First, a classic downsloping response, from the 0 to 5 second time period; and a second, stabilized response, from the 5 to 10 second period. It appears that the early part of the data curve may reflect the response of the sand pack around the well and that the latter part of the data curve may reflect a stabilized condition; however, insufficient information is presented to support this interpretation. The suspect nature of the test is also evidenced by the information presented in the test data section of the

figure which indicates that the well had only 1 foot of water at static conditions at the start of the test; however, according to the graph, the withdrawal of the slug resulted in a 2 foot displacement of water. The Navy must provide information demonstrating the validity of slug test results at ACBMW03 or reject the findings.