REVIEW COMMENTS ON THE (DRAFT)
PHASE I REMEDIAL INVESTIGATION REPORT
FOR THE RED HILL OILY WASTE DISPOSAL FACILITY
LOCATED AT PEARL HARBOR FLEET AND INDUSTRIAL SUPPLY CENTER
OAHU, HAWAII

GENERAL COMMENTS - SECTION 1.0 - INTRODUCTION

1. It is recommended the report include a review of the general response action for the remaining areas of the Red Hill Geographic Study area and how that work will relate to the remedial investigation (RI) at the Red Hill Oily Waste Disposal Facility.

SPECIFIC COMMENTS/QUESTIONS - SECTION 1.0 -INTRODUCTION

Page 1-4, Figure 1-2. The Halawa Stream is not shown on Figure 1-2 as indicated in the text on page 1-2. Additionally, please identify the bold line on the figure. Is the bold line the boundary of the Red Hill Geographic Study Area?

Page 1-7, Figures 1-4, -6, -7, -8, -11. According to the aerial photographs presented in Section 1.0, the discharge point of the slop line into South Halawa Stream was approximately 170 feet northwest of the current discharge point (concrete swale). This would locate the former slop line discharge and surface runoff points either west of the channelized stream or beneath the H-3 Highway. Based on data collected from surface and subsurface soil samples during this RI, there is potential for chemicals to have concentrated in this area which is beyond the boundary of the RI. This issue needs to be addressed in the RI report. Please include an explanation.

Page 1-6, Section 1.1.2.1. It is indicated the old pit area was not in active use from 1949 to 1970. Since the stilling basin was not constructed until 1972, it is unclear where the sludge from the twenty 12.6-million-gallon tanks was discharged. Please provide an explanation in the report of the discharge point and disposal activities between 1949 and 1970.

Page 1-12, Section 1.1.2.3. It is unclear how the reclaimed fuel was transferred from the old pit to the two 8,000-gallon tanks. Please include a description of fuel transfer operations in this section.

SPECIFIC COMMENTS - SECTION 2.0 - STUDY AREA INVESTIGATION

Page 2-8, first paragraph, second sentence. This statement implies that surface samples alone will delineate vertical contamination. Please remove the word vertical and replace it with areal.

carrollcox.com

carrollcox.com, Box 4202, Mililani, HI 96789

107011

Page 2-26, first paragraph. It is unclear why "researchers determined that samples collected from RH-B01 would yield concentrations of chemical concentrations comparable to those occurring naturally in this region." Please provide further discussion for the determination of the background location.

GENERAL COMMENTS/QUESTIONS - SECTION 4.0 - NATURE AND EXTENT OF CONTAMINATION

1. We agree with the investigative approach applied to the site. This approach consisted of performing focused investigations at 11 potential areas of concerns, which were based on an understanding of past activities at the Oily Waste Disposal Facility. The investigative results from each of the 11 areas are presented on separate figures. Since the 11 areas are proximate to each other (less than 100 feet) and are within an overall area of approximately 300 by 500 feet, it is recommended that contaminant distribution maps for the entire 300 by 500 foot area be included in the data presentation. This appears warranted since contaminants appear to be pervasive across the site and the adsorbed contaminant plumes may have commingled. Furthermore, as a result of the historical disposal activities (which have included surface discharge) and the site topography (gradual slope toward Halawa Stream) it appears additional surface sampling is required, especially between the stilling basin and Halawa Stream. The contaminant distribution maps would allow site-wide evaluation of contaminants at the Oily Waste Disposal Facility and would facilitate assessment of additional investigative areas at the site.

2. The nondetection of contaminants in groundwater wells MW-2, MW-3, and MW-5 is questionable, especially considering that soil analytical results showed contamination at the soil/water interface and, in some cases, within saturation. Collection of only one round of groundwater samples during the investigation phase limits the quality of these data. In the future, it is recommended that at least two rounds of groundwater samples be collected from monitoring wells. Results from two rounds of sampling would provide a higher level of confidence the initial sampling results are accurate and not impacted by drilling and well development activities or well purging. As indicated in the RI report, low yield conditions were observed at the monitoring wells. The low yield conditions appeared to prolong well development and sampling activities and also limited the volume of water removed from the borehole. Under these conditions at least one more round of groundwater samples is necessary.

   Considering the monitoring wells were sampled in December 1991, a second round of groundwater samples could have been easily collected and the results included in the Phase I RI report. Unfortunately the wells have been abandoned as part of the Stilling Basin Removal Action (RA). It is understood the wells are supposed to be replaced as part of the RA, however, this was not mentioned in the report. Finally, have water levels been collected from the wells since June of 1992? Were the water levels measured prior to abandonment in 1995? If

carrollcox.com, Box 4202, Mililani, HI 96789

107011

so, these data should be included in Section 3.0 of the RI report to support the presence of the perched water table. The water level data would also be useful for monitoring well screen placement during reinstallation of the wells.

GENERAL COMMENTS - SECTION 5 - CONTAMINANT FATE AND TRANSPORT

1. This section employs the use of simple analytical models to evaluate leaching of contaminants into the basal aquifer approximately 100 feet below ground surface (bgs). It appears the modeling results were used to justify installation of groundwater monitoring wells in this aquifer. Given the site analytical data that show perched groundwater beneath the site has been impacted by contaminants, that contaminant levels in the soil are elevated (TPH up to 27,000 mg/kg), and that contaminants have migrated vertically to the investigation total depth of approximately 45 feet bgs, it is unclear why modeling was necessary to support the decision for installation of groundwater monitoring wells. The data collected at the site are sufficient to identify this need. Based on the site conditions, groundwater monitoring wells are necessary to evaluate the current impact on groundwater and also provide a warning of any impacts in the future. Subsequent to collection of groundwater samples, models can be used to predict the future impact on groundwater. Additionally, vadose zone or leaching models can be used as a decision tool to help determine the level of contaminants that can be left in the vadose zone which will most likely not impact groundwater in the future.

GENERAL COMMENTS - SECTION 6 - APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARs)/TO-BE-CONSIDERED CRITERIA (TBCs)

1. The presentation of only chemical-specific applicable or relevant and appropriate requirements (ARARs) in the RI report is premature and may establish a redundant and confusing ARARs presentation in the future Feasibility Study (FS) or Engineering Evaluation/Cost Analysis (EE/CA) study.

    - The report recommends additional RI phases for the stilling basin, for two 8,000-gallon aboveground storage tanks (ASTs), and for the Underground Piping and Oily Waste Delivery System. Through these investigations, additional contaminants may be detected or potentially eliminated; the presentation of cleanup standards in the RI is premature considering the lack of full characterization for these three sites.

    - Chemical-specific ARARs documentation in the Red Hill Oily Waste Disposal Facility Phase I RI Report does not provide remedial goals for the site. Since the RA levels will be provided in the FS or EE/CA, the RI chemical-specific ARARs section will require revision to support the final RA levels.

carrollcox.com

carrollcox.com, Box 4202, Mililani, HI 96789

- As the contaminants of potential concern (COPCs) are further refined with new analytical data, and the site is further characterized, the chemical-specific ARARs will be further refined creating inconsistency in reporting the application of regulatory requirements between the RI and the EE/CA study.

To establish a consistent and concise approach to ARARs presentation, all chemical-specific, location-specific, and action-specific ARARs discussions should be documented in the future FS or EE/CA.

2. For contaminants remaining on site, Superfund remedial actions must satisfy any "applicable or relevant and appropriate" promulgated State standard, requirement, criterion, or limitation under state environmental or facility siting laws more stringent than any Federal requirement if identified in a timely manner. For example, both the federal and Hawaii primary drinking water standards are presented in Section 6.0. The federal primary maximum contaminant levels (MCLs) appears to be the only documented ARARs for groundwater at this site. Since the promulgated Hawaii MCLs are not more stringent than the federal MCLs, the Hawaii MCLs are not ARARs. As more data are gathered from the site, newly identified substantive Hawaii requirements should be compared with similar federal requirements and the more stringent requirement applied to the site.

SPECIFIC COMMENTS - SECTION 6 - ARARs/TBCs

Page 6-1, first paragraph, last sentence. The text summarizes the statutory conditions for ARARs waiver. The CERCLA ARAR waiver summary is insufficient to evaluate the appropriateness of invoking ARARs waivers. Although each of the six ARAR waivers presented in CERCLA must maintain protection to human health and the environment, the circumstances for waivers are not presented for evaluation. A brief and concise CERCLA ARAR waivers description should be presented with enough detail to evaluate the applicability of invoking waivers to the ARARs presented in this document.

Page 6-1, second paragraph, first sentence. The text states "applicable or relevant and appropriate requirements/to-be-considered" (ARARs/TBCs) were considered during the RI phase. However, standard quantification levels were exceeded for many of the organic compounds found in the USEPA Region IX Preliminary Remedial Goals for tap water (p.6-16, fourth paragraph, third sentence). Only the federal Safe Drinking Water Act MCLs appear to have been used to set data quality objectives during the RI phase. Considering there are only two potential chemical-specific ARARs/TBCs levels for groundwater presented in the document (federal MCLs and USEPA Region IX PRGs), the text should explain the basis for selecting data quantification levels exceeding USEPA Region IX preliminary remedial goals (PRGs).

Page 6-2, third complete paragraph, last sentence. The text describes baseline risk assessment (BRA) levels as TBCs. The site-specific BRA is developed to

carrollcox.com, Box 4202, Mililani, HI 96789

carrollcox.com

107011

characterize current and future human and environmental risks posed by site contaminants. The BRA is conducted independent of ARARs and does not provide chemical-specific TBCs. Although federal guidance documents (i.e., potential TBCs) are used in the course of developing the BRA, documentation of federal risk assessment guidance documents should be discussed and subsequently referenced only in the BRA. Discussion of these risk guidance documents only in the BRA would reduce redundancy and confusion in presenting the chemical-specific TBCs.

Page 6-4, Table 6-1. Arochlor-1260 was detected at less than 1 mg/kg in surface soils at the Former Transformer Area and Proposed Coast Guard Parcel. Since polychlorinated biphenyls (PCBs) are identified in the RI report, evaluation of the Toxic Substances Control Act and the PCB Cleanup Policy appears appropriate (40 CFR Part 761). The policy provides cleanup levels for restricted, nonrestricted, and electrical substation locations. Additionally, USEPA guidance consistent with this policy is provided through the *Guidance on Remedial Action for Superfund Sites with PCB Contamination* (OSWER Directive No. 9355.4-01). The PCB Cleanup Policy and USEPA guidelines on cleanup levels should be reviewed for applicability or appropriateness at the site.

Page 6-7, Table 6-2. The only potential chemical-specific ARARs presented for groundwater in the RI report is the Hawaii and federal MCLs. Since Hawaii has not promulgated more stringent MCLs for drinking water than federal requirements, the Hawaii MCLs are not ARARs. Reference to the Hawaii MCLs should be removed unless the state regulatory standards are more stringent than federal standards.

Page 6-9, first paragraph, second complete sentence. The text presents USEPA Region IX PRGs for human health exposures through ingestion of tap water (see Table 6-5). Although, the PRG presentation is helpful in understanding the PRG risk relationship to federal MCLs, the rationale for a selective presentation of PRGs is not clear. There are a number of guidance risk levels and health advisories for carcinogenic and non-carcinogenic chemicals specifically addressing exposure through drinking water. These guidance documents include the USEPA Integrated Risk Information System, USEPA Health Risk Advisories, National Academy of Sciences Suggested No-Adverse-Response Levels, and USEPA National Water Quality Criteria for Health and Welfare Protection. While not advocating the presentation of a laundry list of risk and advisory levels for the contaminants detected at the site, a discussion of health risk TBCs (including PRGs) should be confined to COPCs for which ARARs have not been developed. Presentation of TBCs where ARARs exist is unnecessary unless a greater health hazard is presented through evaluation of multiple exposure pathways or multiple contaminants in groundwater. Secondly, only those guidance risk levels or health advisories anticipated to be used to establish remedial goals or RA levels in lieu of the site-specific BRA should be presented in the report.

Page 6-9, first complete paragraph, first sentence. The text states that the Hawaii soil cleanup standards (*Hawaii UST Technical Guidance Manual*) are based on potential impact to groundwater. The soil cleanup standard and groundwater protection relationship should be further evaluated. First, the text identifies Hawaii UST soil

carrollcox.com, Box 4202, Mililani, HI 96789

107011

cleanup standard in Table 6-3 as chemical-specific TBC documents for soil contaminants. As a cleanup standard to protect groundwater, the medium of concern is groundwater and not soil. Soil only serves as an intermediate medium. As such, the Hawaii UST soil cleanup standard is established to meet some other groundwater protection standard, perhaps the Safe Drinking Water Act MCLs. Regardless, federal primary MCLs have already been presented as chemical-specific groundwater ARARs. Under the above proposed groundwater protection approach, the presentation of chemical-specific TBCs for soil (Hawaii UST soil cleanup standards) would not be necessary.

Second, the variability of soil contaminant migration depends on environmental attenuation and such factors as vertical distribution of soil contaminants. The text should consider the conceptual approach of not identifying chemical-specific soil cleanup standards but rather establishing non-point-specific soil cleanup criteria for groundwater protection or to prevent further groundwater impacts. The rationale for subsurface soil cleanup is based on the contaminant level and exposure pathway to another medium (e.g., groundwater). Although MCLs form the basis for ARARs groundwater cleanup standards, these cleanup goals would not be ARARs for the soil remedy since MCLs apply to water and not soil. As such, MCLs would form the groundwater criteria for evaluating the soil remedy as verified through computer modeling and field monitoring. Sufficient soil remediation could be recognized when computer modeling and field verification monitoring indicate soil contaminant migration to groundwater would not exceed the groundwater cleanup goals (i.e., MCLs), the BRA, and the ecological risk assessment.

Page 6-17, first paragraph, second sentence. The text states that according to the National Contingency Plan (NCP), petroleum hydrocarbons as a mixture of compounds are excluded from the list of hazardous substances under CERCLA. First, the text provides insufficient definition and evaluation of the CERCLA petroleum exclusion provision. The CERCLA statute defines hazardous substance with an exclusion of petroleum, natural gas, or synthetic gas (CERCLA §101.14). CERCLA also excludes "petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance..." from the definition of pollutant (CERCLA §101.33). The text fails to examine and discuss the six statutory provisions for including petroleum in CERCLA if petroleum contains a specifically listed or hazardous substance (CERCLA §101.33). The text should further define and clarify the CERCLA provisions for petroleum contaminants mixed with the hazardous substances presented in Subsection 6.6.

Second, the text applies the petroleum exclusion provision inconsistently with the waste described in the report. The text states the all remedial actions conducted through the Navy installation restoration (IR) program are implemented consistent with the Marine Corps IR Manual Program, Comprehensive Environmental Response, Compensation, and Liability Act of 1980/Superfund Amendment and Reauthorization Act of 1986 (CERCLA/SARA), and the NCP (p.6-1, first paragraph, second sentence). The document also states the site has been used as an outlet for sludge and oily waste residue, originating from cleaning and maintenance of twenty 12.6-million-gallon

carrollcox.com, Box 4202, Mililani, HI 96789

carrollcox.com

107011

underground fuel tanks. Subsection 6.6 identifies 14 organic chemical and 4 inorganic chemical contaminants in soil or groundwater samples that are potential hazardous substances. The organic and inorganic contaminants not normally associated with petroleum or fractions thereof appears to have contaminated the petroleum waste sludge. The use of the petroleum exclusion provision does not appear to apply to this site. The rationale for invoking the petroleum exclusion provision for this site should be reconsidered.

Third, halogenated solvents were presented in Section 6.0 including 1,1-dichloroethene, 1,1,1-trichloroethane, and tetrachloroethene. Additionally, a number of other halogenated and non-halogenated solvents were not detected above the sample quantification limit (Table 6-5). Considering past disposal practices at this site (historical tank waste disposal site) and the halogenated solvents detected at the site, the text should explain why the waste is not classified as a Resource Conservation and Recovery Act (RCRA) F-listed hazardous waste.

Page 6-17, first paragraph, third paragraph. The text concludes the use of the USEPA oral reference dose (RfDo) for middle distillate fuel oil provides relief from the statutory petroleum exclusion provision. First, federal health risk guidelines do not provide relief from the law. Second, further clarification is necessary to explain the rationale for applying the CERCLA petroleum exclusion provision. For example, a discussion on whether the petroleum is mixed with hazardous substances would clarify if the waste is a CERCLA waste or is excluded from CERCLA action. If the contaminants are not mixed with hazardous substances and are included in the petroleum exclusion provision, clarification should be provided with a discussion on whether the cleanup is proceeding within the provisions of the Federal Facility Agreement (FFA) and the authority for the cleanup. Presumably, petroleum cleanup actions, while not CERCLA actions, are in proceeding under with the FFA.

SECTION 7 - PRELIMINARY RISK EVALUATION

GENERAL COMMENTS

Due to the limited sampling data in this area, the risk assessment question to be answered was a follow on of that presented in Section 6, namely are there areas where concentrations of chemicals are at levels that would require further investigation. In screening the highest detects against the direct contact soil preliminary remediation goals (PRGs), section 6 concluded the answer was yes. The more detailed evaluation that should be presented in section 7 is a average exposure concentration for each specific area. The rationale presented in section 6 is still valid, i.e. for planning purposes and land-use determinations both residential and industrial soil numbers should be compared. This would focus the discussion on those areas with chemicals at levels of concern or where cumulative effects are within the risk range. This approach will help focus the risk evaluation in a consise manner. The recommendation for this report is to delete section 7 as it now stands and do a Preliminary Risk Evaluation as the section claims using the detected concentration in each area and comparing to PRGs.

carrollcox.com, Box 4202, Mililani, HI 96789

107011

SPECIFIC COMMENTS

Page 7-1, second paragraph, second sentence. It should be noted that Part B of the Risk Assessment Guidance for Superfund (RAGS) series is intended to assist in developing risk-based PRGs using USEPA toxicity and exposure parameter values. Part A of the series should be cited since it provides the basic framework for completing human health risk assessments at Superfund sites; most of the information in Part B is derived from this guidance.

Page 7-3, Section 7.1.1.3 (Background). It appears the potential background sampling locations at the three trenches have been impacted by organic contaminants; therefore, additional background sample locations are recommended for the next phase of the investigation. Based on results from RH-SB01, it appears that additional background locations around this boring (RH-SB01) would be suitable locations.

Page 7-6, last paragraph, second sentence. If acetone was a laboratory contaminant, it would be present in lab blanks (calibration, reagent/method blanks); if present in blanks, then sample results are considered positive if the sample concentration is greater than 10 times the maximum concentration in any blank; if detected in samples at concentrations less than 10 times the concentration in the blanks, the blank concentrations should be used as the sample quantitation limit (SQL); if all samples have acetone at <10 times the concentration in the blank, then acetone should be eliminated from the set of sample results. In addition, the surface and subsurface soil (< 20 feet bgs) data should be tabulated and included in this section even though all of the soil has already been excavated.

Page 7-12, first paragraph, sixth sentence. It is unclear why 1 mg/kg (and 3.5 mg/kg for other Exposure Areas of Concern [EAOCs] appear to be used as a sort of threshold value to define low levels of polynuclear aromatic hydrocarbons (PNAs), since some carcinogenic PNAs pose significant health risks at levels several orders of magnitude below 1 mg/kg. Please clarify.

Page 7-6, last paragraph, fifth sentence. The criteria used to determine when metals are at "levels significantly above background" should be presented.

Page 7-16, first complete paragraph, fourth sentence. It should be noted that potential health risks from some PNAs, such as benzo(a)pyrene (detected in 6 of the 7 samples at an average of 0.42 mg/kg and maximum level of 1.5 mg/kg), could be significant at levels well below 3.5 mg/kg.

Page 7-16, last paragraph, fourth sentence. Please clarify why PNAs detected in soil samples are assumed to "...be related to background conditions."

Page 7-21, first paragraph, fifth sentence. It is unclear whether contaminants were detected in the sediment sample (RHSEI-00.25). Since discharges to the culvert were not included in the stilling basin discussion (see pp. 7-6 - 7-7), please identify which EAOC will address contaminated sediments in the culvert.

carrollcox.com, Box 4202, Mililani, HI 96789

carrollcox.com

107011

Page 7-21, last paragraph, fourth sentence. Unfortunately, "very low levels" of Aroclor-1260 can pose significant health risks to exposed populations. Consequently, the conclusion that the soil contamination is not of concern seems premature. It seems more reasonable to assume that, based on the limited number of samples collected for this EAOC, PCB contamination could be more significant than indicated and could pose a significant health hazard. Additional sampling and evaluation of the extent of the contamination appears warranted before writing off this EAOC regardless of the health risk results since they were based on limited data. Please provide further clarification.

Page 7-29, first incomplete paragraph, first complete sentence. It should be noted that the PCB contamination is clearly indicated (detected in 9 of 11 samples). Although the concentrations (0.2 mg/kg average and 0.41 maximum) are fairly low, they could pose significant health risks to exposed workers or residential populations.

Page 7-29, last paragraph. The complete/incomplete pathway discussion is not clear. Suggest the paragraph be revised.

Page 7-32, last paragraph, first sentence. It is generally appropriate to assume the most conservative future land use scenario, namely residential. Although this approach will result in the greatest exposures and highest human health risks, it will also ensure that any alternate land uses that may occur in the future would be covered in the Preliminary Risk Evaluation (PRE). With a less conservative future land use assumption, it may be necessary to monitor future uses or zoning changes and to include provisions for such monitoring in the Record of Decision (ROD) for the site. However, if an assumption of future residential land use is not justified or highly unlikely based on the available information, then best professional judgement should be used to select the most reasonable future land use.

Page 7-36, Table 7.1-21. Soil ingestion/dermal contact is assumed to be insignificant despite the presence of PCBs and PNAs in most of the soil samples collected at the EAOC. Based on Region IX PRGs, contaminant concentrations clearly pose risks exceeding the 1E-06 point of departure, and should, therefore, be considered significant in the PRE even if it is subsequently determined that the risks are acceptable and remedial action is not warranted. Please provide additional rationale.

Page 7-43, last paragraph, fourth sentence. It should be noted that the risk-based TBC does not take into consideration the cumulative health hazards associated with exposure to multiple chemicals. Consequently, while individual contaminant concentrations may not exceed their respective TBC, the additive health hazards may exceed acceptable risks or health hazards. Please address the additive effects when determining cleanup goals.

Page 7-44, fourth complete paragraph. It should be noted that a total of only two surface soil samples were collected.

carrollcox.com, Box 4202, Mililani, HI 96789

107011

carrollcox.com

Page 7-44, fifth complete paragraph. It should be noted that a total of only two samples were collected to characterize this EAOC.

Page 7-44, sixth complete paragraph (Underground Piping and Oily Waste Delivery System). It should be noted that a total of only two surface soil samples were collected to characterize this EAOC.

Page 7-47, second paragraph, fourth sentence. Actually RAGS (1991b) indicates that when the risk for a medium is within a range of 1E-06 and 1E-04, a decision as to whether or not to take action is a site-specific determination.

Page 7-54, Table 7.1-23. The reasonable maximum exposure (RME) values for fluorene and all of the inorganics are inconsistent with the RME values presented in Table 7.1-4; also, arsenic is not included in the table at all. Please correct or clarify this inconsistency. Please provide the parameter values used to calculate the health-based levels (HBLs) for fluorene, naphthalene, chrysene, beryllium, and chromium.

Page 7-56, Table 7.1-24. Please provide the reference for the reference dose, inhalation (RfDi) chronic value for ethylbenzene (the current value appears to be 2.9E-04).

Page 7-57, Table 7.1-25. Please provide the parameter values used to calculate the HBLs for acenaphthene and anthracene.

Page 7-58, Table 7.1-26. The RME value for zinc (3,140 mg/kg) is inconsistent with the value presented in Table 7.1-7 (1,080 mg/kg). Please provide the parameter values to calculate the HBLs for arsenic.

Page 7-61, Table 7.1-28. As indicated in Table 7.1-9, silver was detected in 5 of 7 surface soil samples and 5 of 5 subsurface soil samples, but is not included in the table.

Page 7-69, Table 7.1-35. Please provide the parameter values to calculate the HBLs for Aroclor 1260.

Page 7-70, first incomplete paragraph, last sentence. Please define regulatory risk levels of concern. Footnote (5) should also define the exposure duration and frequency used to calculate the HBLc for Receptor B.

Page 7-70, last paragraph, next to last sentence. Although the arsenic and thallium concentrations in the site soils may be representative of background, the other risk drivers (Aroclor 1260, benzo(a)pyrene) are not. Consequently, cleanup may be warranted. Please address this issue.

Page 7-72, Table 7.1-37. Footnote (b) should be revised to indicate that future land use for the Proposed Coast Guard Parcel is based on RME future on-site resident

carrollcox.com, Box 4202, Mililani, HI 96789

carrollcox.com

107011

exposure of 30 years for carcinogenic effects, and 0- to 6-year old children for noncarcinogenic effects.

Page 7-73, first complete paragraph, second sentence. It should be noted that the exposure frequency of 26 days/year used to estimate health risks already reflects the infrequent exposure assumed for current workers at the site.

Page 7-74, second complete paragraph, first sentence. It should be noted that some of the EAOCs fall within the risk range of 1E-06 and 1E-04. Consequently, a decision about whether or not to take further action would be a site-specific determination to be made by the risk management decision makers.

SECTION 7.2 Site Scoping for Ecological Risk Assessment

The immediate area will have to meet cleanup goals that will satisfy both human health and ecological resources. There has been little effort to define the level of protection for ecological resources for this site. The most important aspect of this site is off-site transport especially through the stream to the harbor. There is a stated concern for the potential impact to the harbor from this site and a suggestion that the potential risk from this site to the harbor will be included in the harbor study. This seems appropriate if the effort is complete and is designed in a way to evaluate the influence from the stream compared to the harbor influences. At this time, there is not sufficient effort designed in the harbor study.

1. p 7-74, There is an apparent misnomer indicated for the work being completed. Section 7.2 Site Scoping for Ecological Risk Assessment. The first sentence starts off with, "The Site scoping ecological risk assessment..." when there is no such "animal." There are phases of the risk assessment including the Site Scoping, of the Problem Formulation phase (Ecorisk Forum document, EPA, 1992), but there is no such phase as a "site scoping ecological risk assessment." This is more than just semantics, because as suggested in the above referenced section of this document, the risk assessment is only intended to be risk assessment limited to the scoping effort which is not complete as written.

The "preliminary evaluation" as described for this effort is closer to a phase I, preliminary assessment, "...a biological Site survey...identify ecological stressors...an assessment of the potential impact of these stressors on the receptors identified." The first effort, "a biological Site survey" appears to be very cursory in that it was completed on a single visit and should be provided in a list as in a table. Apparently, a very minimal effort was made for examining the site for mammals, birds, without any effort for invertebrates including soil organisms. These are not referenced to the appropriate text.

2. The second part of this effort, ecological stressors, appears to be questionable as well. From Section 4, it appears that VOCs and SVOCs were not sampled adequately as only two samples were analyzed with relatively high quantitation limits for all VOC and SVOC results, from "1,000 to 50,000 times the SAP specified guidelines." Site

carrollcox.com, Box 4202, Mililani, HI 96789

carrollcox.com

107011

contaminants are referenced only to a table showing the presence or absence not the concentrations observed.

The third effort, ecological effects, is also poorly presented. The calculations for predicted impact are not shown and inadequately discussed. Again, these data are not summarized and presented in tabular form, nor are they discussed in sufficient detail.

4. The concluding remarks state the most likely pathway for ecological impact is surface runoff or in the dissolved form in storm water runoff from the site (page 7-78). Also, the emphasis of potential impact of these site contaminants is placed on the impacts to Pearl Harbor estuary through the influence of Halawa Stream (p7-78), which will be evaluated as part of the Pearl Harbor sediment study. Because of the lack of adequate sampling in the stream, either adjacent to the site or downstream, and the concluding remarks in Section 8.3.2 indicates that potential impact to the harbor is likely, a more comprehensive effort is needed to fully evaluate ~~the~~ ecological risk at this site.

GENERAL COMMENTS/QUESTIONS - SECTION 8.0 - CONCLUSIONS AND RECOMMENDATIONS

1. As previously discussed, it appears that additional soil sampling is required at all locations investigated since levels of TPH (greater than 100 mg/kg) and other contaminants (PNAs and PCBs) have been detected above USEPA PRGs. Results of these investigations should provide sufficient data to identify background concentrations and support the site-wide risk assessment. It is recommended that the entire Oil Waste Disposal Facility also be evaluated as one site (see Section 4.0 general comment no. 1). Based on this evaluation, additional soil boring locations and surface sampling locations can be determined, as necessary. The evaluation should also consider the RA confirmation sample results which are presumed to be available. It is assumed the evaluation can be included in the draft final and the soil borings and surface sampling locations can be agreed upon in the sampling and analysis plan for the next phase of the RI. The new subsurface data from the soil borings drilled during the next phase of the RI can be used to assess the vertical extent of hot spots or the 11 areas investigated, and also determine if the adsorbed contaminant plumes have commingled. New surface soil data can be used to further characterize the areal extent of contaminants which have been detected above PRGs and to support the risk assessment.

2. We agree with the installation of at least 4 groundwater monitoring wells in the basal aquifer, however, based on the limited understanding of a perched aquifer beneath the site (see Section 4.0 general comment No. 2) it appears that nested monitoring wells (one well completed in the perch zone and one completed in the basal aquifer at the same location) may be appropriate for the site. Has this been considered?

carrollcox.com, Box 4202, Mililani, HI 96789

carrollcox.com

107011