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LETTER AND COMMENTS FROM MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY REGARDING DRAFT REMEDIAL INVESTIGATION REPORT WITH ATTACHMENT
SITE 5 NCBC GULFPORT MS
7/29/2005
MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

STATE OF MISSISSIPPI
HALEY BARBOUR
GOVERNOR
MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY
CHARLES H. CHISOLM, EXECUTIVE DIRECTOR

29 July 2005

Art Conrad
Naval Facilities Engineering Command
Southern Division
2155 Eagle Drive
P. O. Box 190010
North Charleston,, South Carolina 29419-9010

Re: Draft Remedial Investigation Report for Site 5- Heavy Equipment Training Area, Naval Construction Battalion Center Gulfport, Mississippi, September 2004.

The Mississippi Office of Pollution Control (OPC) has reviewed the above referenced document. This document contains a remedial site investigation (RI) as well as human health and screening level ecological risk assessments (RAs). Comments (dated 22 July 2005) submitted by EPA are attached. OPC concurs with these comments and offers the following additional comments. Remaining concerns of OPC are addressed in EPA comments. Due to the volume of document material and potential changes to the text of the RI and the associated ecological and human health RAs, it will probably be necessary to submit an additional draft version of this document unless written comment responses (including updated text, maps and tables) can address concerns to the satisfaction of all reviewers.

1. Section 3.2, beginning on page 3-1: Figure 3-1 provides outlines of interpreted anomalies but a copy of the actual anomaly map should also be provided and referenced in the document.

2. Section 4.3, page 4-3 to 4-8: the text discusses sediment and surface water contaminant concentrations in only reference to MDEQ human health soil and drinking water screening values (Tier 1 Target Remediation Goals or TRGs). Since the document addresses both ecological and human health, the general text discussion should evaluate surface water and sediment concentrations with regard to pertinent screening levels provided in EPA National Water Quality Criteria and EPA Region IV Waste Management Division surface water and sediment screening values. It is noted that these screening values were utilized in the screening level ecological RA, but contaminant concentrations should also be evaluated similarly (perhaps in tabular form) in the general discussion of sediment and surface water contamination.

3. The text does not consistently specify which Tier 1 TRG screening level (restricted or unrestricted) is used (ex. page 4-5, paragraph 4 and 4-12, last paragraph).

4. The text discussion on page 4-5 (last paragraph) and 4-6 (first paragraph) indicates that sediment pesticide and PCB concentrations increased to maximum observed concentrations in samples collected in the downstream direction. This warrants additional sampling to adequately characterize the concentration gradient(s).

5. Page 4-6, paragraph 3: the text states that the absence of the congener 2,3,7,8 TCDD indicates that herbicide orange contamination is not present. It is important to note that although this particular congener may not occur in sediments, occurrences of remaining congeners of dioxin indicate significant contamination.

6. The text discussion given on page 4-7 (paragraph 4) should point out that 2,3,7,8 TCDD was reported in all (both) surface soil samples (Table 4-3). If the occurrence of the TCDD congener is to be evaluated separately among the various media, this should be done consistently with occurrences as well as non occurrences.

7. Only two surface soil samples (and a duplicate) were utilized for the investigation. The general evaluation of surface soils beginning on page 4-7 and in human health (page 6-5) and ecological (page 7-9) RAs were based on these samples. Additional surface soil samples should be taken for a proper evaluation.

   It is noted that the soil underlying portions of Site 5 has been disturbed or "mixed" due to use as a heavy equipment training area. A clear delineation of areas underlain by disturbed or mixed soils and undisturbed or insitu soils is necessary to properly evaluate soil conditions at the site. Figure 3-1 is the only map addressing (although nebulously) heavy equipment training areas. The lack of a clear boundary (aerial and vertically) between disturbed and undisturbed soils implies that the entire site is underlain by disturbed (mixed) soil, although this is not clearly stated in the text. If the site is entirely underlain by sequence of mixed soils, then the reliance on subsurface soil sampling is understandable. In either case, much clarification is needed as this is a key factor for evaluating human and ecological soil exposure routes.

8. Page 4-11, paragraph 4: the expanded text discussion should point out (as in the conclusion on page 4-15, last paragraph) that chloroform was the only VOC exceeding the TRG in groundwater.

9. The text (page 4-12, paragraph 2 and page 4-13, paragraph 4) states that reporting limits for benzo (a) anthracene, bis (2-ethylhexyl) phthalate and thallium were above regulatory screening values. Detection and reporting limits should be below regulatory values.

10. Page 4-12, last paragraph: the discussion of pesticide concentrations should be supported by giving a few specific concentrations.

11. Page 6-7, last paragraph and page 6-10, paragraph 1: clarification is needed concerning the relevance of the statement that maximum soil and sediment TCDD concentrations are below the EPA remedial goal of 1.0 ppb. The EPA 1.0 ppb screening level/RGO is not applicable. Please consult MDEQ guidance concerning dioxin screening values.

12. Page 4-14, last paragraph and page 4-15, first paragraph; Table 4-5: clarification is needed concerning reported concentrations of TCDD and TEQ values for groundwater. For example, total TCDD concentrations of 4.01 ppq, 4.31 ppq and 59.58 ppq are given on Table 4-5 for samples GPT-05-14, MW 05-03 and MW 05-04 (duplicate) respectively. The respective TEQ values for these three samples (Table 4-5) are: 0.07 ppq, 0.16 ppq, and 2.40 ppq. The maximum (low turbidity) reported TEQ (2.40 ppq) occurred in MW 05-04 duplicate (page 4-15, paragraph 1), but the TCDD concentration for this sample (Table 4-5) is 59.58 ppq. This reporting results in 2,3,7,8 TCDD concentrations greater than the TEQ or cumulative dioxin congener concentrations.

Additional comments (provided by EPA) that address the RI and associated human health and ecological screening level RAs are included as an attachment. Please feel free to contact me if I can be of further assistance.

Sincerely,

Bob Merrill

cc. Michelle Thornton, USEPA

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET, SW
ATLANTA, GEORGIA 30303-3104

July 22, 2005

4WMD-FFB

Art Conrad
Naval Facilities Engineering Command
Southern Division
2155 Eagle Drive
P.O. Box 190010
North Charleston, South Carolina 29419-9010

Dear Mr. Conrad:

The Environmental Protection Agency, Region 4 has reviewed the Draft Remedial Investigation (RI) Report for Site 5 - Heavy Equipment Training Area Naval Construction Battalion Center, Gulfport, Mississippi 2005. We offer the - following specific and general comments. If you have any questions or comments, please feel free to call me at (404) 562-8526 or contact me via e-mail at thornton.michelle@epa.gov

Sincerely,

Michelle P. Thornton
Remedial Project Manager
EPA, Region 4

cc:
Bob Merrill, MDEQ

US Environmental Protection Agency Comments for
Draft RI Report for Site 5 - Heavy Equipment Training Area
Naval Construction Battalion Center, Gulfport, Mississippi

GENERAL COMMENTS

1. Given the history of disposal practices at the landfill, the type of wastes disposed there, and the results of the Draft Remedial Investigation (RI) Report, it is doubtful that the RI has adequately characterized the site. Further assessment should be performed to locate the buried drums and contaminant waste sources. Although contaminants were for the most part detected at concentrations below state standards, given the low density of samples, there is reason to believe an undetected source of contamination may still be present. Performance of a Feasibility Study (FS) is premature and that the site has not been adequately characterized.

2. Further characterization of the landfill should be made to locate and characterize landfill waste materials. Consideration should be given to creating test pits in the areas of ground penetrating radar (GPR) anomalies and additional subsurface borings utilizing a denser grid pattern across the landfill to identify waste types and contaminant sources. Appropriate health and safety protocols should be followed when excavating in a solid waste landfill.

3. It is unclear how was the northern boundary of the landfill was determined. In reviewing the aerial photographs at the smaller scale (Figure 4-2 for example), it appears as if the white sandy area extends considerably north of the dotted line, the assumed site boundary. If the white sandy area is actually part of the fill material that was placed over the site, this area should be investigated in a subsequent phase of the RI.

4. Since the area of study has been used as a heavy equipment training area, it is unclear if this activity has ever accidentally unearthed any buried drums or waste material. Given the nature of the activity, there is a possibility of this occurring. Since this landfill does not appear to have an engineered cap or cover, there is a possibility that the training activity or natural rainfall or storms could cause the landfilled materials to be disturbed this site has been evaluated and remedial actions, if any, are performed.

5. It would beneficial to prepare geologic cross-sections to include cross-sections of the landfill. None of the boring logs indicated a layer of waste or debris. Also, it would be helpful to see the cross-section of the landfill in relation to the water table. The report mentions a 4- to 6-foot layer of sand was placed over the wastes during landfill closure and that groundwater ranges from 5 to 10 feet deep. If this is the case, it is likely that waste drums and materials were disposed at/or beneath the water table. Subsurface

vadose zone samples would not have necessarily detect resulting contamination from the wastes (the deepest subsurface soil sample was collected in the 6- to 8-foot interval).

6. Background sampling and analysis should be considered in the next phase of this RI to determine if arsenic and other contaminants could be attributable to normal soil characteristics and patterns in the Gulfport area.

7. Data Useability The report has significant short-falls when identifying data that meets the data quality objectives for use in the risk assessment. The purpose of the remedial investigation (RI) was to collect data to fill data gaps from previous studies, however, previous studies only focused on the perimeter of the landfill such the interior of the landfill still required characterization. Due to the nature of the landfilling activities whereby wastes were placed in trenches, burned and buried, the waste could be in pockets or could also be spread throughout the area. Since the 8.5-acre landfill allegedly received 6000 cubic yards of solid waste to include DDT powder and an unknown quantity of liquid wastes to include approximately fifty to one hundred 55-gallon drums of liquid DDT, fuels, oils, solvents, paints, and paint thinners, there is a high potential for contamination to be present.

   For such a large area there appears to be minimal sampling at surface soil sampling. Both of the onsite surface soil samples detected dioxin (100% detection of the samples taken) and no off-site surface samples were collected from the offsite residential exposure unit. It is understood that the 2 samples were composites. However, to ensure that contamination is delineated a much more robust sampling effort should have been performed. Because wastes were burned there is a high probability that contaminants moved downgradient from the site as particulate matter via air dispersion and deposited at the surface. Thus, again, 2 surface samples are inadequate to characterize current and future exposures and additional work needs top be performed.

   Additionally, there is no discussion in the useability of the data with respect to the depth of the waste and the sample depth to gain an understanding that the subsurface soils have adequately been characterized to assess potential exposures. It is apparent from viewing the Figure 3.2 presented in Section 3.0 that inadequate sampling was conducted in the onsite area. It appears that all subsurface samples were collected at the apparent edge of the landfill where one would expect to find the least contamination. Due to the nature of trenching and filling activities, there is likely no homogeneous contamination at the site, thus a tight systematic grid sampling should be conducted to characterize the limits of the landfill and the nature and extent of the wastes as the current density and depth of samples likely overlook the sources of contamination. The history of the site indicates the disposal of very toxic and persistent compounds (i.e., DDT, dioxin, etc.) which lends even more credence to the idea that adequate sampling be performed to determine the nature and extent of these compounds.

8. Technical Editing Please ensure each section has a section number and in general it is inappropriate to follow one header with only one subheader. For example Section 6.3.2 is COPC selection for surface soil followed by Section 6.3.2.1 which addresses migration. Consider adding a subheader following 6.3.2 called 6.3.2.1 Comparison to Health-based Levels and then the second subheader is 6.3.2.2 which is the migration analysis. Section 6.3.3 for subsurface soil should follow the same outline with 6.3.3.1 as the health-based screen and 6.3.3.2 as the migration evaluation. Also conduct a spell and grammar check as there are routine errors throughout the document (i.e., last sentence in section 6.7.3.2 on page 6-45 and misspellings in Risk Assessment Guidance for Superfund (RAGs) Part D Table 1 esposure should be exposure, to name a few).

SPECIFIC COMMENTS

1. **Section 2.2.1, Page 2-1**. Please provide and details of any interviews with past employees which might ascertain where the drums of liquid DDT, fuels, oils, solvents, paints, and paint thinners were disposed.

2. **Section 3.3, first paragraph, Page 3-2**. The report states that direct push borings were installed to 18 to 30 feet below grade, but the boring logs indicate they were completed only to 8 feet. The reader assumes that the additional depth was required to retrieve a groundwater sample, although that is not stated in the report. Additional boring lithology at depth, including where layers of waste debris are observed, should be provided.

3. **Sections 3.3.1 and 3.3.2, last sentence in each section, Page 3-2, -3**. The report should mention where the dioxins and pesticides were sent for analysis.

4. **Section 3.3.1 and Figure 3-2, Page 3-2** . A denser grid pattern of borings for subsurface soil and groundwater sample collection is recommended; the number and location of borings in the RI, although driven by the GPR findings, is sparse and could have easily missed contaminant source areas.

5. **Section 3.5.1 and Figure 3-4, Page 3-4**. It is likely that fully developed monitoring wells located on the north side of the site would have aided in this investigation and this should be considered in subsequent investigations at this site.

6. **Section 4.1, Page 4-1**. Please include a map showing GPR anomaly results. Future assessments should consider test pits to confirm GPR anomalies and identify what the anomalies are. Appropriate health and safety protocols should be followed when excavating in a solid waste landfill.

7. **Section 4.2, Page 4-1**. Please include some geologic cross-sections. See General Comment 5

8. **Section 4.3.1, Page 4-3**. Additional surface water sampling is warranted in the upstream reaches of the drainage ditch south of the landfill based on the highest concentrations of VOCs being observed in the most upstream sample location.

9. **Section 4.3.2, Page 4-5**. Additional sediment sampling is warranted in the upstream reaches of the drainage ditch south of the landfill based on the results of surface water sampling and the possibility that contaminants could be leaching out of the southeastern portion of the landfill into the drainage ditch.

10. **Section 4.3.4, Summary, Page 4-10**. A comparison is made to on-base and off-base arsenic concentrations in subsurface soils to RI arsenic results and used to suggest that elevated arsenic concentrations are not related to the landfill. Provide the on-base and off-base arsenic data.

11. **Section 4.3.5, Page 4-14**. Lead concentrations in groundwater are suspiciously elevated regardless of turbidity readings. Additional groundwater monitoring wells are suggested in the northern portion of the landfill, and groundwater sampling using the EPA low flow purge sampling method from real wells that have been properly developed is recommended to minimize turbidity.

12. **Section 5.2.3, last sentence, Page 5-7**. The report states that erosion and overland transport of particulate matter from onsite surface soil does not appear to be an important transport mechanism. Given the high amount of rainfall and wind along the Mississippi coast, especially during hurricane season, we do not agree with this statement.

13. **Section 6.0, Page 6-1**. There is no reference to a site figure to illustrate the exposure units. The scale of this assessment is unclear. Please include a figure that shows the exposure units evaluated to include the sample locations included in each exposure unit

14. **Section 6.1, Page 6-2**. Please update the references and include the updated information in these references in the next version of the risk assessment:

    USEPA, 2002. Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites. Office of Emergency and Remedial Response, Washington, D.C. December 2002. OSWER 9285.6-10.

    USEPA, 2004. Risk Assessment Guidance for Superfund (RAGS), Volume I: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment), August 2004. http://www.epa.gov/oswer/riskassessment/ragse/index.htm

    USEPA, 2004. Region 9 Preliminary Remediation Goals (PRGs). October 2004.

    USEPA, 2005. Region 3 Risk-based Concentration (RBC) Table. April 2005.

15. **Section 6.3.2, 6.3.3, 6.3.4, 6.3.5 and 6.3.6, Page 6-5 thru -9**. According to the Mississippi Department of Environmental Quality (MDEQ) and EPA Region 4 guidance on the chemical of potential concern (COPC) Selection Process, if a member of a chemical class has been selected as a COPC then the other members should also be selected as COPCs (e.g., detected carcinogenic polycyclic aromatic hydrocarbons). It appears that benzo(a)pyrene was selected due to the exceedance of a preliminary remediation goal (PRG) for subsurface soils however, according to EPA Region 4 risk assessment guidance, then all other detected carcinogenic polycyclic aromatic hydrocarbons (PAHs) should also be included even if they did not exceed a PRG. Note this comment applies to other COPC selection tables as well (i.e., groundwater, surface water, and sediment). This procedure was used for dioxins where the toxicity of other compounds in that class are based on one compound (i.e., 2,3,7,8-TCDD) and thus, should also be used for the PAHs using benzo(a)pyrene equivalents.

16. **Section 6.3.1, Page 6-4**. New PRGs were available as of October 2004. Please update the next version of the risk assessment with the most current PRGs.

17. **Section 6.3.2, 6.3.3, 6.3.4, 6.3.5 and 6.3.6, Pages 6-5 thru -9**. Throughout the COPC selection process for all media MDEQ target remedial goals (TRGs) are also used for comparison, however, it appears that the noncarcinogenic-based levels were not adjusted for an HI of 0.1 and thus need to be revised and screens revisited. Statements made such as the maximum concentrations of all constituents selected as COPCs (i.e., based on a PRG comparison) were less than the TRGs for restricted land use. This statement is invalid if the TRGs have not been appropriately adjusted for an HI of 0.1 as that is what is required in EPA Region 4 when using the EPA Region 9 PRGs.

18. **Section 6.3.2, Page 6-5**. Two composite samples is insufficient surface soil characterization for ruling out that surface soil is not an issue at the 8.5 acre landfill site. While the former landfill was covered with fine to medium grained-sand, the site is currently used as a heavy equipment training area to include the use of bulldozers and dump trucks, which suggests that the soils are disturbed on a frequent basis. Through the physical disturbance of surface soil, subsurface soil could be brought to the surface under current conditions. Additional surface soil samples are necessary or assume that exposure can occur to subsurface since the soil is disturbed currently through the use of heavy equipment. Risk conclusions cannot be made on two composite samples.

19. **Section 6.3.2, first paragraph., Page 6-6**.Remove second half of first paragraph to the uncertainty section as this discussion regarding Region 9 procedures on background is not appropriate to present here. This places undue uncertainty on the approach used.

20. **Table 6-1**. Two table column headings have the same name Potential ARAR/TBC Value. Please explain what these values are (i.e., residential, industrial). If these are risk-based values it is important to state whether the risks are based on 10^{-6} and an HI of

1.0, as it appears that if these are risk-based values that the noncarcinogenic values have not been adjusted to an HI of 0.1 which makes for the comparison in appropriate since the COPC procedures in EPA Region 4 require adjusting the noncarcinogenic PRGs to an HI of 0.1

21. **Table 6-2**. The RAGS D COPC Selection tables were not followed for comparing soil concentrations to ambient air concentrations rather the soil concentrations were compared to soil screening levels (SSLs)(which are not adjusted for an HI of 0.1). Please rerun the soil screen for the inhalation pathway by comparing the converted soil concentration to the ambient air PRG. The conversion is conducted as follows:

$C_{air} = C_{soil} * 1000(1/PEF + 1/VF)$.

Where C_{air} is concentration of chemical in air in ug/m^3 and the PEF is the particulate emission factor in m^3/kg and VF is the volatilization factor in m^3/kg. VF is only included if the compound is considered a volatile organic compound (VOC). Note the 1000, is a conversion factor.

22. **Sections 6.3.2.1 Migration from Surface Soil to Groundwater,Page 6-6 and Section 6.3.3, Migration from Subsurface Soil to Groundwater, Page 6-8**. This section implies that a dilution attenuation factor (DAF) of 1 is not reasonable and that if a DAF of 20 were used, migration of surface soil contaminants to groundwater would not be an issue for some of the chemicals. However, in the same paragraphs in 6.3.2.1 and page 6-8, Migration from Subsurface Soil to Groundwater, actual site data for soil and groundwater indicate that chemicals exceeding the SSL based on a DAF of 1 are also observed in groundwater which demonstrates leaching is occurring. Use of a DAF of 20 would be inappropriate to use if the site data show evidence that leaching is occurring. Remove the discussions regarding the use of a DAF of 20 unless it can be demonstrate with site-specific data (i.e., depth to groundwater, soil types) that a DAF >1 but less than 20 would be appropriate for this site.

23. **Section 6.4.2 Conceptual Site Model (CSM), Page 6-11**. The primary objective for developing an accurate CSM ensures that all significant completed exposure pathways are selected and is used to identify data gaps where data may not be present to evaluate a specific exposure pathway. Please revise the text as necessary.

24. **Section 6.4.2.1, Page 6-12**. The important chemical migration pathway has not been mentioned is the transport of soil contaminants as particulates in air during physical disturbance of the site as well as historically when wastes were burned. Please elaborate on this pathway and discuss its significance.

25. **Section 6.4.2.2, Page 6-14, Air**. This section needs to be revisited once the RAGS D COPC selection table is revisited using the appropriate conversion of soil concentrations

to ambient air concentrations and then subsequently compared to the ambient air PRGs (adjusted for an HI of 0.1).

26. **Section 6.4.2.5, Page 6-17**.The discussion on developing the exposure point concentrations (EPCs) is over-simplified and does not cite current guidance on developing EPCs. If a data set is demonstrated to be a non-parametric distribution, there are actually more UCLs to choose from other than the three chosen which included normal, lognormal, or maximum value. EPA has developed a very user-friendly software package, ProUCL (which is available for free at the following website: http://0-www.epa.gov.library.unl.edu/nerlesd1/tsc/software.htm that can generate over dozen methods for estimating a 95% UCL and provides recommendations on the preferred UCL to use.

    ProUCL should be used to develop EPCs for the site to more accurately address selection of the appropriate UCL based on a variety of data distributions. UCLs should be revisited using ProUCL (Version 3.0, April 2004). In addition, please review the following guidance:

    USEPA, 2002. Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites. Office of Emergency and Remedial Response, Washington, D.C. December 2002. OSWER 9285.6-10.

27. **Section 6.4.2.6.1, Dermal Absorption of Sediment Page 6-20 and Section 6.4.2.6.2, Dermal Contact with Groundwater, Page 6-23**. It is understood that this document was in progress by the time new dermal guidance has been issued by EPA, however, the next version must be updated throughout the document to include the new guidance that was published in August of 2004 as many exposure factors have changed. These tables cite an older version of the RAGS E guidance (2001). Please revise the text as necessary.

    Risk Assessment Guidance for Superfund (RAGS), Volume I: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment), August 2004. http://www.epa.gov/oswer/riskassessment/ragse/index.htm

28. **Section 6.4.2.6.2, Page 6-25**. An outdated version of the Johnson and Ettinger model (JEM) has been used. Since 2000, the model has been updated multiple times. The most recent version is dated April 2005. The download page is as follows: http://www.epa.gov/oswer/riskassessment/airmodel/johnson_ettinger.htm and then update the JEM results with the most current version of JEM.

29. **Section 6.5.3, Page 6-29**. The most current TEFs should be used to evaluate risks to dioxins. EPA Region 4 has adopted the TEFs presented in the following reference:

    Van den Berg, Martin, et. Al. 1998. Toxicity Equivalency Factors (TEFs) for PCBs,

PCDDs, PCDFs for Humans and Wildlife. Environmental Health Perspectives. Volume 106. Number 12, December 1998.

http://ehp.niehs.nih.gov/members/1998/106p775-792vandenberg/vandenberg-full.html

30. **Section 6.7.3.2 Exposure Point Concentrations, paragraph 1, Page 6-44**. A significant uncertainty that is not mentioned here is that only 2 samples were collected for surface soil to characterize a former landfill of approximately 8.5 acres in size. The uncertainty for such characterization is so high that there is strong potential that using the maximum of two samples does not represent the EPC at the site. This is true as well for subsurface samples where only a total of 28 samples were collected over 8.5 acres (~ 3 samples per acre). With the nature of disposal activities a tighter grid of sampling should be conducted as there is a high probability that the actual contaminated medium was overlooked.

31. **Section 6.7.3.2, Exposure Point Concentrations, paragraph 2, Page 6-49**. Since dioxins are detected in surface and subsurface soils onsite and burning of wastes had occurred in the past at the site, surface samples need to be collected offsite especially since offsite receptors include residential housing in close proximity of the site.

32. **Table 6-13**. Toxicity values are not up to date. The RfDi for benzene is 8.6E-03 mg/kg-day which is in IRIS. The RfDi for chloroform is 1.4E-02 mg/kg-day which is the NCEA value cited in the most current version of the Region 9 PRG table (October 2004).

33. **Section 7.2.4, Page 7-6.** Section 7.2.4 discusses potential exposure pathways. The third paragraph on page 7-6 states that piscivorus wildlife could be exposed to contaminants in canal sediments and surface water or in food items in which contaminants have accumulated. It should be explained in this paragraph why direct contact with surface water and sediment is not considered to be a complete exposure pathway, as indicated in the conceptual site model in Figure 7-1.

34. **Section 7.3, Page 7-8.** This section discusses the screening level exposure estimate and risk calculation. It is stated in the first paragraph of this section that the initial exposure point concentration is compared to "USEPA Region IV ESV" but no reference is provided. A reference should be cited for the screening values.

35. **Table 7-3.** This table provides a comparison of groundwater data to surface water screening values. The EPA ESV for mercury is stated as being 0.77 μg/L. According to USEPA's November 2001 *Ecological Risk Assessment Bulletins - Supplement to RAGS*, the screening value for mercury should be 0.012 μg/L. Use of this screening value would result in an HQ of 14.1 which would make mercury a COPEC.

36. **Table 7-5.** This table provides a summary of initial COPECs. It is unclear why

groundwater exceedances are not shaded or considered to be COPECs. In addition, an explanation of how bioaccumulation in aquatic systems was determined for this table.

37. **Table 7-6.** This table provides NOAEL and LOAEL values for semi-aquatic wildlife. The chromium (VI) LOAEL provided in the table is 131.4 mg/kg-day however the value provided in Sample et.al., 1996 is 13.14 mg/kg-day. This should be corrected in the ERA.

39. **Section 8.2, Page 8-3** . EPA can not concur with the statement that this site is ready for a Feasibility Study at this point. Additional research and site investigations into the location of the buried drums and other waste material followed by an additional site assessment to identify contaminant sources is warranted.

40. **Appendix A**. Please provide a boring log for boring DP-02D.

41. **Appendix D-1, RAGS D Table 2.1, 2.3, 2.5, and 2.7**. Please redo the screen and risks for dioxins by converting all detected dioxins to 2,3,7,8-TCDD toxic equivalents (TEQ). EPA Region 4 has released new guidance on evaluating dioxins please refer to the following Region 4 guidance:

USEPA, 2005. Update for the use of Surrogate Concentration Levels for Dioxin/Furan/PCB Non-detects and Toxicity Equivalency Factors (TEFs) for chlorinated Dioxins, Furans, and Dioxin-like PCBs. Memorandum prepared by Ted Simon, Ph.D., DABT., Nardina Turner, and Charles Appleby. May 6, 2005.