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MCRD PARRIS ISLAND
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LETTER OF TRANSMITTAL AND U S EPA REGION IV COMMENTS ON DRAFT REMEDIAL INVESTIGATION/RESOURCE CONSERVATION AND RECOVERY ACT FACILITY INVESTIGATION FOR SITE 21 MCRD PARRIS ISLAND SC
1/1/2001
U S EPA REGION IV

ID 213
19.01.21.0001

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

4WD-FFB

Brigadier General Stephen A. Cheney
Commander
Marine Corps Recruiting Depot - Parris Island
P. O. Box 19001
Parris Island, SC 29906-9001

SUBJ: Draft Remedial Investigation/RCRA Facility Investigation Report
SWMU 21 – Weapons Power Plant Oil/Water Separator
U.S. Marine Corps Recruit Depot Parris Island, South Carolina
EPA ID# SC6170022762

Dear General Cheney:

The U.S. Environmental Protection Agency (EPA) has received and reviewed the above referenced document. EPA's comments are enclosed. If you have questions about these comments, please call me at (404)562-8506.

Sincerely,

Robert H. Pope
Federal Facilities Branch
Waste Management Division

cc: Tim Harrington, MCRD
Jerry Stamps, SCDHEC
Don Hargrove, SCDHEC
Art Sanford, NAVFAC

Draft Remedial Investigation/RCRA Facility Investigation Report
SWMU 21 – Weapons Power Plant Oil/Water Separator
U.S. Marine Corps Recruit Depot, South Carolina
EPA ID# SC6170022762

General Comments:

1. The RI/RFI Report is well written and presents the data clearly and concisely. The technical approach, data evaluation, and conclusions are consistent and adequately substantiated.

2. The human health risk assessment provides a risk assessment overview in general terms with numerous references to multiple analytes (e.g., TEFs, additive effects, etc.). Since only one human health COPC has been identified, this presentation may be confusing to the casual reader.

3. As is acknowledged, changes to the technical approach and presentation of ecological risk assessments at MCRD Parris Island may occur as a result of the Partnering Team ecological subgroup meetings. It is recognized that the SWMU 21 BERA follows the same approach as previous BERAs at MCRD Parris Island. The reviewer recommends following EPA's process for conducting ecological risk assessments recently discussed during the ecological subgroup meeting for this site. The reviewer also recommends collecting additional samples in depositional areas farther downgradient to fully characterize the extent of contamination at the site. Establishment of measurement and assessment endpoints, the application of food chain modeling, and the determination of default values for model inputs may change, but it is not expected that these changes would substantively alter the findings presented.

4. At the September 2000 Partnering Team meeting, the Navy indicated that ongoing environmental management at SWMU 21 was planned for transfer to the petroleum program due to the nature of the wastes present and the ongoing operational status of the unit. If this is the intent of the Navy, this change should be proposed as part of the recommendations of this RI/RFI Report.

Specific Comments:

1. **Page 1-3, section 1.4.2.** Please provide a more detailed description and/or drawing of the oil/water separator and skimmer system (e.g., as-builts), as well as a summary of operating procedures/practices. Since it appears that at least some oil/fuel constituents have escaped, this information would be useful in determining the potential for upgrade of the system or operating procedures as a best management practice. For example, if oils currently are removed infrequently, a change in procedure or the installation of an automated skimmer could limit oil/water contact time thereby reducing dissolved-phase concentrations released to the environment.

2. **Page 2-1, section 2.2.** Additional text describing the SWMU 21-specific topography should be included. At a minimum, the local relief and landforms should be described and presented (Figure 4-1 provides a good example).

3. **Page 2-1, section 2.3.** Additional text describing the SWMU 21-specific surface water drainage should be included. This should include the area of the local

drainage basin (including any other potential sources of contamination), stream description (manmade or natural, perennial or intermittent), flow rate/characteristics, and type of stream bed.

4. **Page 2-2, section 2.4.** Additional text describing the SWMU 21-specific soils should be included.

5. **Page 2-2, sections 2.5 and 2.6.** It is recognized that site specific descriptions of the geology and hydrogeology of SWMU 21 are presented in subsequent sections. However, much of these descriptions may be more appropriate for the corresponding sub-sections in this section.

6. **Page 2-3, section 2.7.** Additional text describing the SWMU 21-specific ecology should be included. Section 7.2.1 of the ecological risk assessment provides a good description of the site ecology.

7. **Page 3-1, section 3.1, 2nd sentence.** The word "swell" should be changed to "swale".

8. **Page 3-1, section 3.1.2.** Specify what, if any, investigation-derived waste was generated during this project.

9. **Page 3-2, section 3.2, 2nd paragraph, 5th sentence.** Please clarify how it is known whether or not the Hawthorn formation is present at this site.

10. **Page 4-1, section 4.0, 1st paragraph, 3rd sentence.** The analyses performed during the 1995 and 1999 sampling events were different (the 1999 event did not include VOC, pesticides or PCBs). Please re-phrase this statement accordingly.

11. **Page 4-1, section 4.1.1, 2nd paragraph.** Since Carbon Disulfide was not analyzed during the 1999 sampling event, its presence or absence was not determined (please re-phrase accordingly). Additionally, background values have not been "established" for MCRD Parris Island, particularly for VOCs. It could be stated that the detected value was consistent with ubiquitous levels found throughout MCRD Parris Island.

12. **Page 4-3, Table 4-1.** A column should be added to the table with the most stringent requirement among the applicable RBCs and ESVs for each analyte. This will allow the reader to better evaluate the findings in context with the applicable regulatory thresholds.
Also, it is recognized that this table is a standardized format used for most investigations. However, computing averages for 2 samples is somewhat counter productive. For the purposes of this report, it is suggested that listing the detected results for the 1995 and 1999 investigations would be sufficient and may display the data more effectively. This would also display the duplicate results.

13. **Page 4-3, Table 4-1, Column: Average Of Positive Detects.** It is not clear why this column is included. Averaging only over the positive detects has no statistical basis. It is suggested that this column be removed.

14. **Pages 5-1 through 5-3, section 5.0.** This section presents a generic summary of the various factors that influence fate and transport of the identified COPCs. Additional text should be included to describe the implications of these factors for the analytes detected (at the concentrations presented) in context with the

environmental setting and background conditions. For example, if a storm event caused significant erosion of the sediments near the outfall, would there be a large increase in contaminant loading to the environment and would it be in a bio-available form.

15. **Page 5-2, section 5.2.2, 2nd paragraph.** This paragraph discusses the bioaccumulation/bioconcentration of PAHS. However, for most species the PAHS are metabolized readily and do not accumulate in the higher trophic levels. It is suggested that this paragraph be revised and referenced.

16. **Page: 5-2, section 5.2.3, 6th paragraph, 3rd sentence.** This sentence states that the mobility of metals generally increases with decreasing pH and cation exchange capacity. However, this is true for only the metals existing as cations. Metals such as arsenic and hexavalent chromium usually exist as anions (arsenate and chromate) and will migrate more readily with increasing pH. This sentence could be revised to discuss the metal COPCs (i.e. lead). This thought might also be followed through to Table 5-2.

17. **Page 6-1, section 6.0, 1st paragraph, 3rd sentence.** The text states that there are five major components to the BRA, but there are six bullets listed, please revise.

18. **Page 6-1, section 6.0, 2nd paragraph, 1st sentence.** This sentence states that COPCs will be evaluated quantitatively in the baseline risk assessment. However, with only two samples (four years apart), the word "quantitatively" can only be used in the loosest sense to describe risks. It is suggested that the title be revised to Baseline Human Health Evaluation and the modifier "semi" be used. In addition, the fact that this risk assessment only covers 2 sediment samples should stated in the introduction.

19. **Page 6-3, section 6.1.2, 1st paragraph, 2nd sentence.** "TAL organics" should be "TAL inorganics".

20. **Page 6-4a, 1st paragraph, 3rd sentence.** Insert "at" between "COPCs" and "SWMU".

21. **Page 6-18, section 6.5.2.2, 2nd paragraph.** This briefly discusses the fact that only two samples were used in the risk assessment and that the estimates are likely to be an over estimate of risk. Since there were insufficient samples to delineate the contamination, any statement as to over estimation or under estimation is not appropriate. In general, the uncertainty analysis does an insufficient job of characterizing the uncertainty due to the small number of samples. In essence this is a snapshot analysis of a single point. It is true that the small sample area may under estimate the true exposure area, but until the contamination is delineated, this underestimate can not be estimated. It is suggested that the discussion of the small sample size be expanded.

22. **Page 8-2, section 8.0, 5th paragraph, 1st sentence.** This sentence states that the analytical data for SWMU is adequate to demonstrate that there is no significant risk to human heath and ecological receptors. However, this statement is too strong for the paucity of data. Unless delineation is performed, this statement should be modified. In addition, there is no evidence that additional contamination may not occur in the future. It is recommended that MCRD Parris Island consider annual sampling be performed to monitor for future spills since this in an active facility. The paragraph could be constructed as follows for the

human health portion: The analytical data for SWMU 21 suggests that there is no additional risk for the maintenance and construction workers. Residential risk was not considered as the area is not a residential area and future plans are to keep the area as an industrial/commercial area. At the current time there is no evidence that the contamination is more or less extensive than observed. Annual monitoring is recommended to be performed to ensure that additional contamination does not occur. A programmatic decision should be made as to which regulatory program will be responsible for the monitoring.