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RETURN RECEIPT REQUESTED

Mr. Kevin Cloe
Navy Technical Representative
Installation Restoration Section (South)
Environmental Program Branch
Environmental Division,
Atlantic Division (LANTDIV), Code EV23KC
Naval Facilities Engineering Command
1510 Gilbert Street
Norfolk, VA 23511-2699

Re: Naval Station Roosevelt Roads - EPA I.D. Number PRD2170027203

EPA Comments on:

- 1) Navy's December 23, 2002 Responses to EPA's Comments on the RFI Final Report for SWMU 3
- 2) Navy's December 23, 2002 Responses to EPA's Comments on the CMS Investigation Report for SWMU 9
- 3) Draft CMS Work Plan for SWMUs 53 and 54 [November 27, 2002]

Dear Mr. Cloe:

The United States Environmental Protection Agency (EPA) Region 2 has completed its review of the above three items, submitted by Baker Environmental on behalf of the Navy. EPA requested our contractor, Booz Allen Hamilton, to review the above three items. EPA has reviewed Booz Allen's Technical comments, which are enclosed, and concurs with those comments. Based on this review, EPA has the following comments:

1. EPA's has reviewed Baker Environmental's December 23, 2002 responses to EPA's November 19, 2002 comment letter on the September 4, 2002 Draft RFI Final Report for SWMU 3, and found the responses to be largely, but not entirely, acceptable. Several issues, which are discussed in the enclosed Technical Review, must be addressed, before the Draft RFI Final Report for SWMU 3 is fully acceptable. Within 35 days of your receipt of this letter, please submit either an addendum to the RFI Final Report for SWMU 3

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addressing comments in the enclosed Technical Review, or, considering the significance of SWMU 3, EPA would prefer submission of a complete RFI Final Report, incorporating both the revised pages and figures submitted with Baker Environmental's letter of December 23, 2002, as well as any modifications necessary to address comments in the enclosed Technical Review [dated February 6, 2003].

2. Your September 5, 2002 responses to EPA's original comments [comments dated October 4, 2001, but Navy's response delayed until September 2002 due to funding issues] on the July 2, 2001 CMS Investigation Report for SWMU 9 are approved, as modified by the subsequent responses/clarifications given in Baker Environmental's letter of December 23, 2002. Therefore, the July 2, 2001 CMS Investigation Report for SWMU 9, is now approved, as modified by the Navy's responses given in your letter of September 5, 2002 and Baker Environmental's December 23, 2002 letter. This approval is based on the Navy including the text and table given in Baker Environmental's December 23, 2002 letter in the Draft Final SWMU 9 CMS Report, when submitted.

As discussed in Mr. Mark Kimes' [of Baker Environmental] E-mail of February 18, 2003 to myself, additional investigations for the constituent lead, as proposed in the July 2, 2001 CMS Investigation Report for SWMU 9, remain to be implemented at SWMU 9. Therefore, please submit a Draft Work Plan for those additional lead investigations at SWMU 9 within 60 days of your receipt of this letter.

3. For SWMU 53 and 54, the Draft CMS Work Plan, submitted November 27, 2002 is not fully acceptable, as discussed in the enclosed Technical Review, dated February 6, 2003. Within 35 days of your receipt of this letter, please submit a revised CMS Work Plan addressing comments in the enclosed Technical Review.

However, please note that although the enclosed Technical Review cites the May 1994 *RCRA Corrective Action Plan* as the applicable guidance for the contents of a CMS Work Plan, EPA has subsequently stated that the May 1, 1996 Advanced Notice of Proposed Rulemaking (ANPR) regarding Corrective Action for Releases From Solid Waste Management Units [Federal Register, vol. 61 No. 85, pp 19431 - 19464] may be utilized as guidance for implementing RCRA Corrective Action. Section III.C.4 [Evaluation of Remedial Alternatives] of the May 1996 ANPR states that "The CMS does not necessarily have to address all potential remedies...EPA advises ...to focus corrective measures studies on realistic remedies and to tailor the scope and substance of studies to the extent, nature and complexity of releases and contamination at any given facility." Therefore, in developing a revised CMS Work Plan and/or responses to the enclosed Technical Review, you may base the revised CMS Work Plan, and/or those responses, on the May 1996 ANPR, where applicable, and/or the May 1994 *RCRA Corrective Action Plan*.

If you have any questions, please telephone me at (212) 637- 4167.

Sincerely,



Timothy R. Gordon
Remedial Project Manager
Caribbean Section
RCRA Programs Branch

Enclosure

cc: Mr. Carmelo Vazquez, P.R. Environmental Quality Board, w/encl.
Ms. Madeline Rivera, Public Works Dept., Naval Station Roosevelt Roads, w/
encl.
Ms. Kathy Rogovin, Booz Allen & Hamilton, w/o encl..
Mr. Mark Kimes, Baker Environmental, w/encl.

**TECHNICAL REVIEW OF NSRR's RESPONSES TO COMMENTS
ON THE DRAFT AND REVISED INSERT PAGES FOR THE FINAL RCRA
FACILITY INVESTIGATION (RFI) REPORT FOR
SOLID WASTE MANAGEMENT UNIT (SWMU) 3**

**NAVAL STATION ROOSEVELT ROADS
CEIBA, PUERTO RICO**

REPA3-0203-006

February 6, 2003

Booz Allen Hamilton reviewed the above-referenced RCRA Facility Investigation (RFI) report for technical adequacy and submitted comments on November 19, 2002. The Naval Station Roosevelt Roads (NSRR) submitted responses to Booz Allen's and EPA's comments and submitted revised document pages to EPA on December 23, 2002. Booz Allen reviewed the information provided in the December 23, 2002 correspondence. In general, the previous comments have been accepted by NSRR and appropriate revisions have been made to the document. However, outstanding issues are discussed below.

EPA COMMENTS

1. The response is acceptable.
2. The response is acceptable.

BOOZ ALLEN COMMENTS

I General Comments

1. The response is acceptable.
2. NSRR has indicated that Section 5.2 (Sediment) will include a brief discussion on the human health and ecological risk assessment data along with a table comparing sediment results from both the 1995 and 1997 RFI, as EPA requested. In addition, NSRR indicated that references will be added where appropriate in the document to afford the reader the opportunity to trace the history of the site.

While the new text and table help to clarify the history of the Health and Environmental Assessments (HEAs) for solid waste management unit (SWMU) 3 sediments, critical information is missing. This discussion indicates that potential risks are posed by the sediments in area of concern (AOC) D, and the Executive Summary and Section 6.1 indicate that NSRR proposed and EPA agreed that no further action was required for SWMU 3 sediments. However, the relationship

between AOC D and SWMU 3 has not been established, and the technical basis for the no further action recommendation has not been included. Thus, Section 5.2 should be expanded to clarify how the HEA for AOC D relates to SWMU 3, and why no further action is appropriate for SWMU 3 particularly when the Phase I HEA indicated potential risks to exposed populations.

II Specific Comments

Table 5-1 Summary of Organic Detections in Groundwater, SWMU 3, Base Landfill

1. NSRR has indicated that it will utilize a low level polycyclic aromatic hydrocarbon (PAH) analysis with reporting limits at 2 µg/L. NSRR further states that this value is at the maximum contaminant level (MCL) for benzo(a)pyrene but above the EPA Region III tap water risk-based concentration (RBC) for the majority of the PAHs.

However, NSRR's response incorrectly stated the MCL for benzo(a)pyrene, which is actually 0.2 µg/L, rather than 2 µg/L. Thus, a reporting limit of 2 µg/L remains too high. SW-846 Method 8310 provides a reporting limit for benzo(a)pyrene of approximately 0.2 µg/L and a method detection limit of approximately 0.02 µg/L, which are much closer to the MCL and RBC. Therefore, it is recommended that NSRR utilize EPA Method 8310 for future groundwater monitoring to ensure that detection and reporting limits are lower than or as close as possible to the appropriate screening levels.

**TECHNICAL REVIEW OF THE NOVEMBER 27, 2002 DRAFT CORRECTIVE
MEASURES STUDY (CMS) WORK PLAN FOR SWMUs 53 AND 54**

**NAVAL STATION ROOSEVELT ROADS
CEIBA, PUERTO RICO**

**FEBRUARY 6, 2003
REPA3-0203-006**

Booz Allen Hamilton reviewed the Naval Station Roosevelt Roads (NSRR) November 27, 2002 Draft Corrective Measures Study (CMS) Work Plan for solid waste management units (SWMUs) 53 and 54 (CMS Work Plan) for completeness and technical content. The review focused on the adequacy of the approach for additional investigation, ecological risk assessment, and corrective measures evaluation. The document was reviewed against the recommended content of the CMS Work Plan outlined in the *RCRA Corrective Action Plan, OSWER Directive 9902.3-2A, May 1994*.

I GENERAL COMMENTS

1. The *RCRA Corrective Action Plan* specifies that if a CMS Work Plan is required, it shall include the following items:
 - A description of the specific corrective measure technologies and/or alternatives that will be studied.
 - A section on project organization. The section should identify key personnel, their responsibilities, lines of communication, and the required qualifications for the personnel performing the work. An organizational chart should be included.

The CMS Work Plan should be expanded to include these elements. This information is necessary to ensure that appropriate corrective measures technologies are considered in the CMS and that the personnel responsible for performing the evaluation are adequately qualified.

2. The CMS Work Plan provides historical data for pesticides at SWMU 53 to justify the locations of the data gap samples. However, historical data has been omitted for metals at SWMU 53 and no historical data is provided for SWMU 54. Section 1.0 (Introduction) of the CMS Work Plan should be expanded to describe the distribution and concentration of contaminants that exceeded screening criteria at each site, and should be supported by figures that graphically present

this information. This information is necessary to assess the adequacy of the proposed sample locations and the appropriateness of the proposed corrective measures technologies.

3. In general, the ecological risk assessment (ERA) portion of the CMS Work Plan (Section 5) is in accordance with current EPA guidance. However, the ERA description is very generic and only provides a framework for assessing ecological risks. The CMS Work Plan should be revised to include a preliminary conceptual site model, proposed assessment and measurement endpoints, and ecological receptors. This would be more consistent with previous NSRR work plans that have included this information, and is beneficial in allowing EPA review and approval of more specific aspects of an ERA.
4. Corrective Action Objectives (CAOs; Section 6) appear to consider only human health, but should also be based on risks to ecological receptors (e.g., plants, soil invertebrates, wildlife). The CMS Work Plan should be revised to include CAOs that address ecological receptors as well, as the final remedy must be protective of both human health and the environment.

II SPECIFIC COMMENTS

Section 2.1 Objectives, Page 2-1

1. The last paragraph indicates that a highly focused CMS is appropriate for SWMU 53 and a screening of technologies will not be performed because the site has straightforward remedial solutions. This approach may be appropriate; however, it contradicts information provided in Section 8.1.3 of the CMS Work Plan, which indicates that a screening of alternatives will be performed for both sites. This discrepancy should be corrected. If the screening of alternatives will be omitted for SWMU 53, this should be stated in Section 8.1.3, and the straightforward remedial solutions should be identified and justified. The justification should ensure that the proposed remedies will be protective of human health and the environment; attain cleanup standards, control sources of release, and comply with waste management standards.

Section 2.2 Corrective Measures Standards, Page 2-2

2. It is unclear how the corrective measures standards discussed in this section differ from the quantitative corrective action objectives (CAO) that will be calculated using the methodology discussed in Section 6.0. Revise the CMS Work Plan to differentiate between corrective measures standards and CAOs and provide a discussion of how each set of values will be used to evaluate the effectiveness of the various corrective measures alternatives.

Section 3.2 Laboratory Analyses, Page 3-2

3. This section states that additional pesticide analyses will only be triggered if surface soil samples exceed criteria specified in Figure 3-3, including ecological screening values (ESL). Figure 3 indicates that no ESL is available for heptachlor. In the absence of an alternative value, the EPA Region 5 ecological data quality level (EDQL) for heptachlor should be used (www.epa.gov/reg5rcra/ca/edql.htm). The EDQL of 0.006 mg/kg for soil considers risks to both wildlife and soil organisms, and is higher than the proposed detection limit shown in CMS Work Plan Table 3-2.

Section 6.4.2 Quantitative CAOs, Page 6-4

4. This section indicates that industrial workers may be exposed to contaminants in groundwater via inhalation of volatile organic compounds emitted through the soils into buildings. To evaluate this potential exposure pathway, NSRR proposes to use the Johnson and Ettinger model. While the use of this model is appropriate, it is recommended that the CMS Work Plan be revised to utilize the methodology outlined in EPA's November 29, 2002 *Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (Subsurface Vapor Intrusion Guidance)*, which includes the Johnson and Ettinger model. This guidance includes a three-tiered approach for determining whether the subsurface vapor intrusion pathway is complete and, if so, whether vapors are present at levels that may pose unacceptable exposure risk. The three tiers involve increasing levels of complexity and specificity, and generic screening levels allow for a simple quantitative screen of contaminant concentrations.

Section 6.6 Background Concentrations as CAOs, Page 6-7

5. This section indicates that background concentrations may be used as quantitative CAOs when they exceed risk-based CAOs. It should be noted that the use of background concentrations as quantitative CAOs is most often limited to inorganic contaminants. The CMS Work Plan should be revised to indicate that background concentrations will only be used as quantitative CAOs for inorganic constituents when they exceed risk-based CAOs.

Section 8.2 Evaluation of the Corrective Measure Alternative or Alternatives, Page 8-2

6. The elements of the evaluation of alternatives described in this section are generally appropriate. However, the evaluation should be structured as described in the *Final RCRA Corrective Action Plan, OSWER Directive 9902.3-2A, May 1994*. As described in this guidance, the primary factors for remedy selection are:

1. Protect human health and the environment
2. Attain cleanup standards
3. Control sources of releases
4. Comply with applicable standards for management of waste.

For corrective measures alternatives that meet these requirements, the additional factors listed below should be considered:

5. Long-term reliability and effectiveness
6. Reduction in the toxicity, mobility, or volume of waste
7. Short-term effectiveness
8. Implementability
9. Cost.

Sections 8.2 and 8.3 should be revised to reflect the structure recommended in the guidance.

Section 8.4.2 Corrective Measures Study Final Report, Page 8-5

7. This section should be expanded to provide a more detailed description of the Final CMS Report format and content. The Final CMS Report should describe each of the phases of alternative evaluation, and provide detailed rationale for selecting or rejecting each alternative. The Final CMS Report should be prepared in accordance with guidance provided in the *RCRA Corrective Action Plan*, and an outline should be included in the CMS Work Plan to ensure consistency with the *RCRA Corrective Action Plan*.

Table 3-1 Summary of Sampling and Analytical Program, SWMU 53

8. Table 3-1 indicates that the field duplicate and matrix spike samples for pesticides will be collected from sample location 53SS09. However, the CMS Work Plan also indicates that the sample from location 53SS09 will not be analyzed unless sample 53SS07 or 53SS08 is contaminated. As such, the field duplicate sample and matrix spike samples for pesticide analyses should be collected using sample 53SS07 or 53SS08 to ensure that the field duplicate and matrix spike samples are analyzed.

Figure 3-2 Additional Surface Soil Samples for Lead, Zinc, and Copper

9. The proposed sample locations cannot be evaluated because the results of the previous investigation are not provided. Figure 3-2 should be revised or additional figures provided that depict the previous sample results (as done for the pesticide results on Figure 3-1). This information is necessary to evaluate the adequacy of the proposed sample locations.