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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY - REGION II
290 BROADWAY
NEW YORK, NEW YORK 10007-1866

APR 25 1997

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

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

Re: Addendums 1 & 2 to the draft RCRA Facility Investigation (RFI) Report - Operable Units 1, 6, & 7.
U.S. Naval Station Roosevelt Roads
RCRA/HSWA Permit No. PR2170027203

Dear Commander Pena:

The United States Environmental Protection Agency (EPA) Region II has reviewed the Addendum 1 (January 28, 1997) and Addendum 2 (February 28, 1997) to the July 1996 draft Final RCRA Facility Investigation (RFI) Report for Operable Units (OUs) 1, 6, & 7, submitted in response to EPA's deficiency comments given in our letter of November 8, 1996. The two Addendums were transmitted on behalf of the Navy by Baker Environmental, Inc.'s letters of January 28 and February 28, 1997 respectively.

However, EPA has not completed its review of the data validation reports for the analytical results included with the July 1996 draft Final RFI report. EPA's comments are predicated on the assumption that the analytical results included with the RFI report for OUs 1, 6, & 7 will be judged usable following EPA's data validation review. Accordingly, EPA reserves the right to revise and/or add to our comments based upon a complete review of the validity of the analytical results.

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Addendum 1 (Response and Revisions to RFI Report to address deficiency comments given in EPA's letter of November 8, 1996)

EPA does not approve Addendum #1 as submitted. EPA's specific comments on Addendum #1 to the RFI report are given below, and in Enclosure #1 (A.T. Kearney Technical Review):

1. Though the background constituent concentrations given for surface and subsurface soils, and groundwater (in Tables 4-1 and 4-2 respectively of the Addendum) are frequently cited to support no further action recommendations, neither the locations, nor the sampling program to establish background conditions were approved by EPA (nor even submitted to EPA for its prior review). In order for EPA to evaluate the adequacy and representativeness of the background data, Addendum 1 must be revised to include a discussion of the following:

a) where the background samples were collected (describe the location(s) and show them on a facility map),

b) lithologic and completion logs for all the background wells and/or soil borings, including the depths of all sampled intervals;

c) the number of data points/samples upon which the Background concentrations given in Tables 4-1, 4-2, and 4-3 for each media (surface soil, subsurface soil, and groundwater) are based, and a tabulation of the full background data set;

d) why these background sample locations and intervals were selected, and the basis for determining their representative of background;

e) and whether the location of the background samples may have been impacted by contamination from activities at the facility.

f) a discussion of the steps taken, if any, to verify that the background area(s) had not been impacted by contamination from activities at the base.

2. In order for EPA to evaluate the Navy's request that no further investigation be required for the SWMU #6/AOC B area, EPA requests the Navy to submit the following:

a) Well logs for the newly installed RFI wells ACBMW01 and ACBMW03, and for existing IR program well IR10GW03.

b) Lithology logs for soil borings ACBSB01 and 02, ACBMW02, 6SB01, 02, and 03.

c) The most recent groundwater analytical data from well IR10GW03. If such analytical data is not available, the Navy must instal and sample a third groundwater well for AOC B pursuant to the original requirements of the September 1995 approved RFI work plan.

d) Concurrent groundwater elevation measurements for wells ACBMW01 & 02, and IR10GW03, and a determination of groundwater gradient direction based on that data.

e) A Human Health Risk Assessment (HHRA) evaluation for current on-site worker exposure through accidental ingestion and dermal contact of the accumulated/standing water sampled in building 145/AOC B, where mercury was measured at a concentration of 22 ug/l. The HHRA submitted with the July 1996 draft RFI report only considered exposure to subsurface soils. The risks calculated for exposure to the accumulated/standing water must be added to the other on-site worker exposure risks at this AOC. If a potential risk to current on-site worker exposure is indicated, the Navy must submit a clean-up plan for the interior of building 145 (AOC B), including not only the accumulated/standing water, but also the walls and floors of the structure (since the source of the mercury in the accumulated/standing water has not been defined).

f) The total incremental lifetime cancer risk (ILCR) and total hazard index (HI) calculated for adult and young children future residential exposure to surface soils at AOC B/Building 145 (refer to Table 5-4)) slightly exceed EPA's acceptable risk levels. Furthermore, as discussed for current on-site workers in e) above, ICRs and HIs must also be calculated for future residential exposure (accidental

ingestion and dermal contact) to the accumulated/standing water in Building 145 (AOC B). If a potential risk to future residential populations is indicated for both media, the Navy may submit either a clean-up plan for both the surface soils at AOC B and the interior of building 145/AOC B [as discussed in e) above], or documentation that permanent non-residential usage restrictions are/will be placed on this area.

g) The statement in the first paragraph on page 5-6 that for risk assessments for surface soils at the SWMU 6/AOC B area "Individually, these COPCs resulted in risks within EPA's acceptable risk range" is irrelevant. Likewise for footnote (2) of Table 5-4, that "However, the individual ILCRs for these COPCs are within USEPA's acceptable target risk range..." EPA guidance indicates that the risks from different COPCs/exposure scenarios for the same media must be summed. Both statements should be deleted.

h) Also, the statement in paragraph 2 on page 4-3 regarding AOC B that "it is likely that the detection of the pesticides in the isolated location is the result of concentrated pesticide application and not related to solid waste management activities" is irrelevant and must be deleted. First, pursuant to requirements of the 1994 RCRA/HSWA Permit, the facility is required to cleanup all contamination resulting from releases of hazardous waste and hazardous constituents, not just that resulting from "solid waste management activities". Secondly, based on past practices at the SWMU 6/AOC B area, it is far more likely the release resulted from uncontrolled storage of hazardous constituent containing products and wastes, rather than "concentrated pesticide application". The text must be revised or deleted.

i) Likewise, the statement in the first paragraph on page 5-6, regarding surface soils at the SWMU 6/AOC B area, that "Since it is very common to detect PAHs in such areas [where trucks and heavy equipment vehicles are parked], it is highly unlikely that these PAHs are the result of waste management activities" is not acceptable. First, due to its slope the area around AOC B is not an area where vehicles are expected to be parked. Secondly, PAHs result from many

activities besides incidental vehicle parking. Third, pursuant to requirements of the 1994 RCRA/HSWA Permit, the facility is required to cleanup all contamination resulting from releases of hazardous waste and hazardous constituents, not just that resulting from "waste management activities". The text must be revised or deleted.

j) In addition the statement on page 4-4 regarding metals exceeding the "screening criteria" for groundwater at AOC B must be revised to include chromium since the concentration of 168 ug/l in well ACBMW01 exceeded the MCL of 50 ug/l, and vanadium, since its concentrations in both wells ACBMW01 and 03 (790 ug/l and 326 ug/l respectively) exceeds the RBC for Tap Water of 260 ug/l. The text must be revised.

k) Also, the statement on page 4-4 in the AOC B groundwater section that MCLs are "more stringent" [than tap water RBCs] is not correct and must be revised. For example the MCL for arsenic is 50 ug/liter; yet the Tap Water RBC is 11 ug/l for noncarcinogenic effects and 0.038 ug/l for carcinogenic effects. The statement should be deleted or revised.

Additional deficiency comments given in Enclosure #1 (A.T. Kearney Technical Review) must also be addressed by the Navy.

<u>Addendum 2 (Workplan for Additional Investigations)</u>

Deficiency comments on the actual additional investigation work proposed by the Navy are given in Enclosure #2 (A.T. Kearney Technical Review). These deficiencies must be addressed by the Navy.

Also, EPA notes that two areas where additional investigation were either previously requested by EPA (in our letter of November 8, 1996), or recommended by the Navy in the July 1996 draft RFI report, have not been included in Addendum 2. Specifically, Addendum 2 does not include additional surface and subsurface soil and groundwater sampling at the AOC B/SWMU 6 area as requested in EPA's letter of November 8, 1996. [However, EPA will re-consider the Navy's request for no further investigation, based on full submission of the data requested above under our Addendum 1 comments]. In addition, the July 1996 draft RFI report had recommended additional sediment sampling for those AOC

D (marine sediments) areas associated with possible releases from SWMU 2 (Langley Drive Disposal Area); yet no such sampling is included in Addendum 2.

Please submit a full written response and/or revised Addendum(s) addressing all the comments given above and in Enclosures #1 and #2, by June 6, 1997. Please contact Mr. Tim Gordon of my staff, at (212) 637-4167 if you have any questions.

Sincerely yours,

Nicoletta DiForte

Nicoletta DiForte
Chief, Caribbean Section
RCRA Programs Branch

Enclosures (2)

cc: Mr. Israel Torres, EQB, with encl.
Mr. Christopher T. Penny, LANTDIV Code 1822, with encl.
Mr. Tom Fuller, Baker Environmental, Inc., with encl.
Mr. Doug Sullivan, A.T.Kearney, Inc., w/o encl.

Encl. 1

EVALUATION OF JANUARY 1997 DRAFT ADDENDUM #1 RCRA FACILITY INVESTIGATION REPORT FOR PHASE I INVESTIGATIONS AT OPERABLE UNITS 1, 6, AND 7

NAVAL STATION ROOSEVELT ROADS
CEIBA, PR

Submitted to:

Elizabeth Van Rabenswaay
Regional Project Officer
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Submitted by:

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March 10, 1997

EVALUATION OF JANUARY 1997
DRAFT ADDENDUM #1
RCRA FACILITY INVESTIGATION REPORT
FOR
PHASE I INVESTIGATIONS AT
OPERABLE UNITS 1, 6, AND 7
NAVAL STATION ROOSEVELT ROADS
CEIBA, PR

TABLE OF CONTENTS

Section		Page
1.0	INTRODUCTION	1
2.0	METHODOLOGY	1
3.0	EVALUATION OF RESPONSE TO USEPA REGION II COMMENTS	1
4.0	EVALUATION OF RESPONSE TO THE KEARNEY TEAM COMMENTS	2
4.1	General Comments	2
4.2	Page-Specific Comments	3

1.0 INTRODUCTION

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

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

EPA requested the Kearney Team to review the *Draft Addendum RCRA Facility Investigation Report for Phase I Investigations at Operable Unit 1, 6, and 7*, January 1997, prepared by Baker Environmental, Inc. The Baker document is designed to address EPA comments regarding the findings and conclusions of the Draft RCRA Facility Investigation (RFI) Report for Phase I Investigations at Operable Unit 1, 6, and 7, July 1996.

The Kearney Team's report presents evaluations of the Navy responses to both USEPA Region II and Kearney Team comments to the Draft RFI report. Section 1.0 of this report discusses the scope of this evaluation of the response to comments. Section 2.0 identifies the methods and objectives of this evaluation. Section 3.0 presents the evaluation of responses to USEPA Region II comments. Section 4.0 presents evaluation of responses to Kearney Team comments.

2.0 METHODOLOGY

Pursuant to the EPA Work Assignment Manager's (WAM's) request, the Kearney Team reviewed the draft addendum. The Kearney Team's review focused on evaluating technical adequacy of the responses, expansion of discussions, and new information and/or conclusions presented in the response to comments. Only outstanding issues or

comments which have not been completely or adequately addressed are discussed in the Kearney Team document.

3.0 EVALUATION OF RESPONSE TO USEPA REGION II COMMENTS

1) ¶1: The response is adequate. The Navy will need to provide appropriate documentation that the land use restrictions have been implemented.

   ¶2: The Navy should provide information pertaining to the number, location, and concentrations of the background samples and statistical analyses used to determine background levels. Verification that SWMU 6/AOC B is restricted to industrial use needs to be provided.

   ¶3: Background concentrations will need to be verified by EPA prior to concluding that surface and subsurface soil at SWMU 6/AOC B have been adequately characterized.

   ¶5, 6, 7: Background concentrations will need to be verified by EPA prior to concluding that groundwater at SWMU 6/AOC B has been adequately characterized. There are no additional comments on the revised tables which are presented in the Addendum.

2) The response does not adequately address the comment since the requested information regarding the proposed work plan was not contained in the document. The information presented as Section 7 has been received under separate cover and is currently being reviewed for technical adequacy and appropriateness.

3) The response does not adequately address the comment since the requested information regarding the proposed work plan was not contained in the document. This information has been received and is currently being reviewed for technical adequacy and appropriateness. The last sentence of paragraph 2 on page 4-5 of Section 4.2.2 of the revised text should be reworded to say "the highest concentrations of both arsenic and beryllium detected in the surface soil samples were below the concentration of these same metals in the background surface soil samples". The word "well" should be deleted since there

is no statistical significance to the phrase. In addition, the last part of the sentence should be deleted since there is insufficient data to support the conclusion that the metals are not indicative of site contamination to SWMU 26.

4-9) The information planned for inclusion in the additional workplan contained in Section 7 is currently being reviewed for technical adequacy and appropriateness.

4.0 EVALUATION OF RESPONSE TO THE KEARNEY TEAM COMMENTS

4.1 General Comments

SWMU 13 through AOC D
The response does not adequately address the comment since the requested information regarding the proposed work plan was not contained in the document. This information is currently being reviewed for technical adequacy and appropriateness.

4.2 Page-Specific Comments

Section 4.0 and Figure 4-16
The Navy should obtain the two sediment samples which were previously deleted between sample locations 3SD01 and 3SD04. Currently, the lack of data between the two locations represents a data gap. There is no information from which to determine whether the northeastern part of the landfill maybe acting as a potential source via leachate outbreaks or percolation to groundwater.

Page 5-13, ¶6, Section 5.2.1.5
Although toxic equivalent dioxin RBCs were provided in the revised tables, the Region III RBC values for industrial/residential soils are incorrect. The tables should be reviewed and revised as appropriate. The correct values should be 0.04 and 0.004 μg/kg for industrial and residential soils, respectively.

Page 5-38, ¶1, Section 5.3.6.4
The Navy should clarify why these samples contained within SWMU 2 are included in OU 3/5 investigations since page 1-3 of the Draft RFI Report indicates that sediment samples from SWMU 2 will be included in OU 7.

Section 5 Tables
This response is adequate; however, revised tables presented in Appendix B of the Addendum did not reference the source of the RBCs for phenanthrene and benzo(g,h,i)perylene. The tables should be reviewed and revised as appropriate.

Table 5-2
The text should be revised to indicate that the table appears in Appendix B, not Appendix A, as indicated.

Table 5-9, Table 5-24, Table 5-39, and Table 5-42, Page 2
Although toxic equivalent dioxin RBCs were provided in the revised tables, the Region III RBC values for industrial/residential soils are incorrect. The tables should be reviewed and revised as appropriate. The correct values should be 0.04 and 0.004 μg/kg for industrial and residential soils, respectively.

Page 6-7, ¶2, Section 6.2.2.1
Additional justification will need to be provided to support the statement that surface soil exposure is assumed to be insignificant for a construction worker when compared to subsurface soil exposure. The assessment approach appears unreasonable since construction workers would be expected to be exposed to both surface and subsurface soil.

Page 6-16/Table 6-8
The response does not adequately address the original comment since the reference for each absorption value has not been provided. Table 6-8 will need to be expanded to indicate the reference for each absorption value

Table 6-1
The Navy did not provide a response to the request for justification as to why dioxins were not retained as COPCs for AOC B soil. However, dioxins were included as COPCs for SWMUs 13 and 31 as requested.

Page 7-9, ¶2, Section 7.1.9,
The additional work plan discussed in the response is currently being reviewed for technical adequacy and appropriateness.

Page 7-20, ¶ 4, Section 7.3, and Page 7-22, ¶ 4, Section 7.3

The Navy should justify the rationale for deferring assessment of SWMU 2 to the OU 3/5 investigations since page 1-3 of the Draft RFI indicates that sediments adjacent to SWMU 2 are included in OU 7. The assessment regarding the need for additional sediment characterization will need to be reviewed to ensure that adequate investigation has been performed.

ENCL. #2

EVALUATION OF FINAL ADDENDUM 2
RCRA FACILITY INVESTIGATION WORK PLANS
ADDITIONAL INVESTIGATIONS AT
CERTAIN OPERABLE UNIT 1, 6, AND 7 SWMUs
NAVAL STATION ROOSEVELT ROADS
PUERTO RICO

Prepared for:

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April 1, 1997

EVALUATION OF FINAL ADDENDUM 2
RCRA FACILITY INVESTIGATION WORK PLANS
ADDITIONAL INVESTIGATIONS AT
CERTAIN OPERABLE UNIT 1, 6, AND 7 SWMUs
NAVAL STATION ROOSEVELT ROADS
PUERTO RICO

TABLE OF CONTENTS

Section		Page
1.0	INTRODUCTION	1
2.0	METHODOLOGY	1
3.0	GENERAL COMMENTS	1
4.0	DETAILED EVALUATION OF WORK PLANS	1

1.0 INTRODUCTION

The U.S. Environmental Protection Agency (EPA) has requested that the A.T. Kearney Team (Kearney Team) provide support to EPA under Work Assignment No. R02020 for technical review of documents associated with the RCRA Facility Investigation (RFI) of the U.S. Naval Station Roosevelt Roads (NSRR) located in Ceiba, Puerto Rico. EPA requested the Kearney Team to review the *Final Addendum 2 RCRA Facility Investigation Work Plans Additional Investigations at Certain Operable Unit 1, 6, and 7 SWMUs*, prepared by Baker Environmental, Inc. (Baker) dated February 28, 1997. The Work Plan Addendum was prepared in response to EPA and A.T. Kearney Comments to the RFI Report dated November 1996.

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

This Kearney Team report presents an evaluation of the Navy's Work Plans for the additional investigative activities. The method and objective of this evaluation is presented in Section 2.0, general comments regarding the work plans are presented in section 3.0, and specific comments regarding the work plans are detailed in section 4.0, by AOC/SWMU.

2.0 METHODOLOGY

Pursuant to the EPA Work Assignment Manager's (WAM's) request, the Kearney Team reviewed the final work plan addendum. The focus of the Kearney Team's review was centered on ensuring that EPA comments to the RCRA Facility Investigation were adequately addressed. The Kearney Team also focused on the scope and rational for additional investigations at certain operable unit 1, 6, and 7 SWMUs. Only work plans for certain areas which have not been completely or adequately addressed are discussed in the Kearney Team document.

3.0 GENERAL COMMENTS

The Addendum should be revised to present clearer investigation rationales and sampling locations for SWMUs 10, 26, 46, and AOC C. Also, the Addendum does not address EPA's request for additional sampling at AOC B/SWMU 6 and AOC D/SWMU 2. Baker must address EPA's request for additional sampling at these SWMUs.

4.0 DETAILED EVALUATION OF WORK PLANS

SWMU 10 (Substation 2 - Building 90)
The work plan proposes installation and sampling of two temporary monitoring wells; however

EPA's original comment requested installation of three bedrock monitoring wells. The work plan needs to be revised to fully address EPA's comment. Additionally, monitoring well installation methods need to be provided.

The rationale section should be expanded to support the proposed locations of the temporary wells.

SWMU 26 (Building 544 Area)
Figure 2-2 should be revised to include the locations of all three background samples from this SWMU.

SWMU 46 (Pole Storage Yard Covered Pad)
The work plan does not include soil sample collection immediately north, east, and west of the area formerly designated "Contaminated Soil Area". The Work plan should include sampling immediately north, east, and west of the area, particularly when arsenic was previously detected in one of the borings conducted in the designated area.

The work plan states 15 fifteen surface samples will be collected in the area of SWMU 46; however, only 11 are shown on Figure 2-4. Figure 2-4 should be modified to present surface and subsurface sampling locations with different symbols to distinguish each, and updated to include all 15 surface soil sample locations.

AOC C (Transformer Storage Pads)
The work plan proposes 14 subsurface soil samples to be collected in the area of AOC C; however, only 10 are apparent on Figure 2-4. The Figure should be modified to present all 14 subsurface soil sample locations.

AOC D (SWMU 13 and SWMU 11/45)
The total organic carbon content of each sediment sample should be included as a sample analyte to characterize the bioavailability of organic contaminants within the sediments. The Kearney Team recommends the inclusion of this parameter for all sediment samples collected at SWMUs 13 and 11/45.

Pg. 2-17, Section 2.9.2
The work plan states EPA Region II Data Validation Standard Operating Procedures (SOPs) and analytical methods presented in the *Final RCRA Facility Investigation, Naval Station Roosevelt Roads, Puerto Rico Work Plans* will be used to validate all analytical results. However, the analytical methods referenced in the stated plan are SW-846 methods. The EPA Region II Data validation SOPs are applicable to the CLP Statement of Works, not SW-846 methods. The original SOPs presented for data validation in Appendix D of the *Final RCRA Facility Investigation, Naval Station Roosevelt Roads, Puerto Rico Work Plans* must be utilized and referenced in this work plan.