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TRANSMITTAL FOR REVISIONS TO FINAL COMPREHENSIVE RESOURCE CONSERVATION AND RECOVERY ACT FACILITY INVESTIGATION WORK PLAN CNC CHARLESTON SC
12/1/1995
NAVFAC SOUTHERN

DEPARTMENT OF THE NAVY
CHARLESTON NAVAL SHIPYARD
CHARLESTON, S.C. 29408-6100

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Ser 106.2/0809
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Mr. G. Randall Thompson
Director, Division of Hazardous and Infectious Waste Management
Bureau of Solid and Hazardous Waste Management
South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

RE: REVISION SUBMITTAL TO THE FINAL COMPREHENSIVE RCRA FACILITY INVESTIGATION WORK PLAN

Dear Mr. Thompson:

The purpose of this letter is to submit the revised Comprehensive RCRA Facility Investigation (RFI) Workplan for the Charleston Naval Shipyard for approval, as required by our Hazardous and Solid Waste Amendments Part B Permit (EPA SCO 170 022 560).

The Final Comprehensive RFI Workplan is included as enclosure (1). Enclosure (2) provides responses to comments. If you have any questions, please contact Amos Webb at (803) 743-5519.

Sincerely,

R. L. LANEY
Director, Occupational Safety,
Health and Environmental Office
By direction of the Commander,
Charleston Naval Shipyard

Encl:
(1) Revision 1 to the Final Comprehensive RFI Workplan
(2) Responses to Comments

Copy to:
SCDHEC (Bowers, Olano)
USEPA (Brittain)
COMNAVBASE (N4BEC, Dearhart, Fontenot, Brittain)
SOUTHNAVFACENGCOM (Hunt, Stockmaster)
E/A&H

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
COMMENTS ON REVISIONS TO THE FINAL COMPREHENSIVE RCRA FACILITY INVESTIGATION (RFI) WORK PLAN - SEPTEMBER 21, 1995

Based on this review, the following comment has been generated. In verbal discussions with personnel representing the Charleston Naval Base and Shipyard (NAVBASE), it was noted that the current description of the manner in which monitoring wells will be labeled is not being followed. The current version of the Comprehensive RFI Work Plan states in Section 5.2 "... if monitoring well 23 is installed SWMU 47, the groundwater monitoring well designation would be '047G0023'." However, monitoring wells are being designated such that the first three digits are "NBC", followed by the Zone designation (such as "A", "B", etc. through "L"). The next three digits are the Solid Waste Management Unit (SWMU) or Area of Concern (AOC) number, followed finally by the well number itself. While this methodology for designating monitoring wells is similar to that included in the Comprehensive, it is not identical. The Comprehensive RFI Work Plan should be revised to accurately describe how monitoring wells will be labeled.

Response: Section 5.2 of the Final Comprehensive Sampling and Analysis Plan has been revised to reflect the monitoring well identification convention verbally described to SCDHEC. Shallow monitoring wells will be designated according to the Naval facility name (first three digits), investigative zone (one digit), the SWMU/AOC number (three digits), and the unique well number (three digits). Supplemental grid based monitoring wells will require a slight variation to the identification system. The first two digits of the SWMU/AOC field described above will be replaced with the characters "GD" to indicate the well is grid based. The third digit will be replaced with the corresponding investigative zone. The identification of deep monitoring wells will adhere to the same system with the addition of the letter "D" (to indicate deep) being added to the end of the character string.

ENVIRONMENTAL PROTECTION AGENCY COMMENTS ON THE MAY 19, 1995 REVISED COMPREHENSIVE RFI WORK PLAN

GENERAL COMMENTS

1. June 8, 1995, Background Evaluation Technical Memo - Subsequent to the May 19, 1995, Revised Comprehensive RFI Work Plan, Naval Base Charleston submitted a procedure for determining "background contamination" in other than "near pristine" conditions. The absence of "near pristine" conditions at Naval Base Charleston complicates the determination of background contamination. EPA has reviewed this method of determining background contamination and determined that this is an acceptable procedure for determining background contamination under Naval Base Charleston conditions. EPA recommends that this procedure be included in the Revised Comprehensive RFI Work Plan.

Response: The *Background Evaluation Technical Memo* has been incorporated as an Appendix to Volume III of the *Final Comprehensive RFI Work Plan.*

SPECIFIC COMMENTS

1. June 8, 1995, Background Evaluation Technical Memo. EPA concurs with the use of the proposed methods to determine background and to compare levels of inorganic chemicals in site samples with background for the purpose of selecting Chemicals of Potential Concern (COPCs). However, EPA requests that short technical memoranda be submitted for each site regarding COPC selection and that EPA and SCDHEC review this selection before any risk assessments are finalized.

   This review can be performed informally - the technical reviewer at EPA communicates with Naval Base Charleston's Contractor so the reviews can be accomplished by FAX and telephone calls; SCDHEC needs to be included in this communication.

   Outlier Detection

   EPA requests that a dialogue be started with Naval Base Charleston's Contractor to compare the outlier detection scheme presented with that in *Statistical Analysis of Groundwater Monitoring at RCRA Facilities, Interim Final Guidance*, EPA/530-SW-89-026, pages 8-10 to 8-13 (attached). EPA would also like a comparison between the outlier detection limit of the mean plus 2 standard deviations to Rosner's test in *Statistical Methods for Environmental Pollution Monitoring*, Gilbert, 1987, pages 188-191 (attached).

Power Analysis for the Wilcoxon Test

The Background Evaluation Technical Memo states:

> Therefore, power will depend upon the sampling strategy for each zone, and cannot be specified in a general memo. A detailed power analysis will be conducted for each zone to be included in the RFI report.

EPA is unaware of a specific power analysis for a non-parametric test such as the Wilcoxon Rank Sum test. The exact method of power analysis should be specified.

Clarity and Language

EPA realizes the difficulty in writing mathematical or statistical material. However, greater clarity would be desirable. For example,the reviewer had particular difficulty with the following sentence:

> It is more reasonable to assume that lognormal background distributions of chemical concentrations are the norm for the Naval Base, than to assume that the datasets document a background that is contaminated in comparable fashion by seven chemicals at two different depths in the soil.

Attachments

1. *Statistical Analysis of Groundwater Monitoring at RCRA Facilities, Interim Final Guidance*, EPA/530-SW-89-026, pages 8-10 to 8-13.

2. *Statistical Methods for Environmental Pollution Monitoring*, Gilbert, 1987, pages 188-191.

Response: Ongoing communication between USEPA, SCDHEC, and the Navy's contractor has resulted in a resolution of these issues prior to receipt of these comments.

Volume II, Appendix D, Analytical Methods, Sample Containers, Preservation and Holding Times.

1. References to EPA Methods in Test Methods for Evaluating Solid Wastes, SW-846, should be updated to include the most recent approved versions of these methods. The most recent versions of the methods listed are:

TPH	5030A	Cyanide	9010A	Herbicides	8150B
Metals	6010A	VOC	8260	Mercury	7471A
Mercury	7470A	SVOC	8270B	Pest/PCB	8080A

Response: The CSAP has been amended to incorporate the most recent approved version of these methods.

2. The method listed for hexavalent chromium in soil, USEPA 218.4, does not contain an extraction procedure for soil samples. At the present time the only EPA method available to extract hexavalent chromium from soil is a draft SW-846 method, Method 3060A Alkaline Digestion for soil, sediments and sludges. The facility may want to use this method if another method cannot be located. Data from method 3060A should be identified as being generated with a draft method due to the lack of a suitable alternative method.

Response: The CSAP will list Method 3060A, Alkaline Digestion for soil, sediments and sludges, as a draft SW-846 method for extracting hexavalent chromium from the soil.

3. The method and holding times listed on page D-5 for nitrite and nitrate are suitable for the analysis of combined nitrate + nitrite, but not for these analytes individually.

Response: The method and holding times indicated on Page D-5 for nitrite and nitrate will reflect the analysis of combined nitrate + nitrite.

Volume III

1. Section 2 of Southwest Lab's QA Plan (Volume III of the subject document) does not apply. Field sampling and decontamination of field equipment is covered elsewhere.

Response: Because Section 2 of the Southwest Lab QA Plan does not apply it has been deleted from the submittal.

2. Section 3.3. The responses to EPA's comments on the ecological aspects of the former document, as well as the subsequent document revisions, are acceptable. However, EPA recommends that Section 3.3, page 3-9, of the **Final Comprehensive Baseline Risk Assessment Work Plan** be modified to reflect that "a decision will be made on whether assessment endpoints are attainable." (The response to comments on the former document indicated that the author meant to address the ability to determine cause-effect relationships.)

Response: The text has been modified to read as stated in the comment.

3. Section 5.4.2, Item 10, page 5-14. The filter pack should extend at least two feet above the screen.

Response: Item 10 (Page 5-15, Volume II) has been revised to state that the filter pack will extend at least two feet above the screen when conditions permit. Due to the shallow depth of groundwater it is sometimes difficult to extend the filter pack two feet above the screen and also be able to install a bentonite seal of adequate thickness in the remaining annular space.

4. Section 5.4.2, Item 14, page 5-14. The bentonite-cement-water ratios should be 6.5 to 7 gallons of water per 94 pound bag of cement, with 5 to 10 per cent bentonite added. Minimum density of the final mixture should be 9.4 pounds per gallon, and should be measured using a mud balance.

Response: Per previous comments made by both EPA and SCDHEC, high solids bentonite grout has been specified as the preferred grout material. As a result the revision suggested above can not be made without agreement by both agencies.

5. Section 5.4.2, Item 15, page 5-15. The tremie pipe should be of the side discharge type.

Response: Item 15 (Page 5-15, Volume II) has been revised to indicate the tremie pipe will be of the side discharge type.

6. Section 5.4.3, Item 10, page 5-17. The plug should be cored to prevent shattering. This may not be necessary with rotasonic techniques.

Response: All deep wells are being installed at NAVBASE utilizing the rotasonic technique, therefore, the plug does not have to be cored.

7. Section 5.5, page 5-21. Care must be taken with samples placed in plastic sleeves. After the core is exposed again for sampling, the core must be shaved to ensure the soil that was in contact with the plastic sleeve is not sampled.

Response: To date, samples have not been collected for analysis from the cores obtained from the deep well installations. As a contingency the text will be modified to indicate that if samples are to be retained for chemical analysis the core will be shaved to ensure that soil that was in contact with the plastic sleeve is not sampled.