



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 2

290 BROADWAY

NEW YORK, NY 10007-1866

JUN 28 2007

CERTIFIED MAIL

RETURN RECEIPT REQUESTED

Mr. Mark E. Davidson
US Navy
BRAC PMO SE
P.O. Box 190010
North Charleston, SC 29419-9010

Re: Naval Activity Puerto Rico (NAPR), formerly Naval Station Roosevelt Roads,
EPA I.D. Number PRD2170027203:

- 1) Draft RFI Report for SWMU 27 (Sludge Drying Beds at Capehart Waste Water Treatment Plant), dated April 6, 2007;
- 2) Draft RFI Report for SWMU 28 (Sludge Drying Beds at Bundy Waste Water Treatment Plant), dated March 26, 2007;
- 3) Draft RFI Report for SWMU 29 (Sludge Drying Beds at Industrial Area Waste Water Treatment Plant), dated April 6, 2007;

Dear Mr. Davidson:

This letter is addressed to you as the Navy's designated project coordinator pursuant to the January 29, 2007 RCRA Administrative Order on Consent ("the Consent Order") between the United States Environmental Protection Agency (EPA) and the U.S. Navy (the Navy). EPA Region 2 has completed its reviews of the above documents, which were submitted on behalf of the Navy, pursuant to the requirements of the Consent Order.

Based upon our reviews, EPA has the following general comment: The Recommendations (Section 6.2) of each of the above draft reports states that a Phase II RFI is recommended. While EPA agrees that additional investigation work is warranted, the requirements of the January 2007 Consent Order and EPA guidance do not describe a Phase II RFI. Therefore, please modify the proposal to refer to it as an RFI, or a "Full RFI" as indicated in Paragraph 25.H (Contingent Investigation and Corrective Action Requirements for SWMUs 27, 28, and 29) of the Consent Order. The work plan for the RFI or a "Full RFI" should be consistent with the scope of work included as Attachment III of the January 2007 Consent Order, or as discussed in Chapter III of the EPA guidance document "RCRA Corrective Action Plan" dated May 31, 1994 (OSWER Directive #9902.3-1a).

Additional comments are given below.

Draft RFI Report for SWMU 27 (Sludge Drying Beds at Capehart Waste Water Treatment Plant)

Section 6.2 (Recommendations) states that "impact on the environment was found ...to the northeast of the sludge drying beds." and that additional investigation is recommended "...to delineate the site contamination....in surface and subsurface soil...". While EPA concurs that additional investigations are warranted for surface and subsurface soils, EPA does not concur that the additional investigations be limited to those media. EPA notes that the volatile constituent 1,1,1,2-Tetrachloroethane was measured above its risk-based Region IX PRG (preliminary remediation goal) for tap water in two of the 4 groundwater samples (i.e., 27TW01 and 27TW02), and that the inorganic constituent barium was measured above its PRG level in those same two groundwater samples. In addition, barium also exceeded both its MCL level and groundwater background criteria in groundwater sample 27TW01. Those groundwater detections were recorded in wells located along the north and east flanks of the sludge drying beds, and the source area for those release is not apparent. In addition, vanadium was measured in the groundwater above its tap water PRG in all 4 of the groundwater samples, but below its basewide background criteria established in the October 2006 "Summary Report for Environmental Background Concentrations of Inorganic Compounds" (the Background Report). Also, since the vanadium concentration of 410 ug/L in sample 27TW02 is more than twenty times greater than the concentrations in the other 3 groundwater samples at SWMU 27, there appears to be a release at that location. As discussed in my May 29 and June 11, 2007 letters, EPA has concerns about the validity of the basewide background criteria for vanadium established in the October 2006 Background Report.

Therefore, the proposed additional investigations should include not only a program to define the extent of the impacted surface and subsurface soils, but also investigations to define: a) the nature and extent of the organic and inorganic contamination impacting the groundwater along the north and east flanks of the sludge drying beds, b) the likely source area for those release, and c) the potential for unacceptable risks to human health and/or the environment.

In addition, vanadium was found above its industrial and/or residential risk-based PRG in all surface and subsurface soil samples at SWMU 27, but below the basewide background criteria established in the October 2006 Background Report. However, as discussed in my May 29 and June 11, 2007 letters, EPA is concerned about the validity of the basewide soil background criteria for vanadium as established in the Background Report. Therefore, with regards to vanadium in the surface and subsurface soils, EPA does not concur with the Recommendation in Section 6.2 of the Draft Phase I RFI Report that the additional investigations be limited to delineating "...the site contamination above background levels...". Rather, pending submission of additional data on validity of the natural background concentrations for vanadium in soils as established in the Background Report, EPA requests that the additional investigations at SWMU 27, include vanadium as one of the inorganic constituents to be further investigated in surface and subsurface soils at that SWMU.

Draft RFI Report for SWMU 28 (Sludge Drying Beds at Bundy Waste Water Treatment Plant)

Section 6.2 (Recommendations) states that “impact on the environment was found ...in areas to the south and east of the sludge drying beds. A Phase II Investigation is recommended...in both surface soil and groundwater...”. While EPA agrees that additional investigation work is warranted, the recommendations do not describe the scope of the proposed additional investigations. PCBs were detected in 4 of the 9 surface soil samples, and exceeded residential PRG in sample 28SB02-00. In addition, lead and mercury concentrations were measured in the surface soils at sample 28SB02-00 and 28SB03-00 above their residential risk-based PRGs and their corresponding basewide surface soil background criteria. Also, barium exceeded its residential PRG and background criteria in the surface soil sample 28SB01-00.

In addition, vanadium was found above its residential risk-based PRG in all surface and subsurface samples, but below the basewide background criteria established in the October 2006 Background Report. However, as discussed in my May 29 and June 11, 2007 letters, EPA has concerns about the validity of the basewide background criteria for vanadium. Therefore, with regards to vanadium in the surface soils, EPA does not concur with the Recommendation in Section 6.2 of the Draft Phase I RFI Report that the additional investigations be limited to delineating “...the site contamination above background levels...”. Rather, pending submission of additional data on validity of the natural background concentrations for vanadium as established in the Background Report, EPA requests that the additional investigations include vanadium as one of the inorganic constituents to be further investigated in surface soils at SWMU 28.

The groundwater sample 28TW01, on the southeast side of the sludge drying beds had elevated concentrations of a number of inorganic constituents which exceeding their corresponding MCL levels and/or tap-water PRGs, and the corresponding basewide background criteria, established in the October 2006 Background Report. These groundwater exceedances in sample 28TW01 included 9 inorganic constituents (arsenic, barium, beryllium, chromium, lead, nickel, vanadium, zinc, and mercury). In addition, groundwater sample 28TW03, on the east side of the sludge drying beds, had inorganic concentrations exceeding the corresponding MCL levels or tap-water PRGs for arsenic, barium, lead, and vanadium, but not the corresponding basewide background criteria. Although Section 6.1 of the report indicates that well 28TW01 was the only well drilled into bedrock, it is not clear what the relationship of groundwater encountered in TW01 is to groundwater in TW03, or the relationship of inorganic exceedances in those two wells. Therefore, the proposed additional investigations for groundwater should include a program to define: a) the extent of the above inorganic contaminants, b) the direction and relationship of groundwater flow in the bedrock and overlying aquifer formation, and c) the likely source for the contamination impacting the groundwater in the bedrock and overlying aquifer formation.

Draft RFI Report for SWMU 29 (Sludge Drying Beds at Industrial Area Waste Water Treatment Plant)

While Section 6.2 (Recommendations) states that “A Phase II RFI investigation is recommended to delineate the site contamination above background levels in surface and subsurface soil...”, no further details are given. Arsenic in surface soil samples 29SB01-00 and 29SB05-00 exceeded the corresponding residential and industrial PRGs, and the background criteria established in the October 2006 Background Report. Cadmium in sample 29SB01-00 exceeded the corresponding residential PRG, and the background criteria. EPA interprets the above statement to include those two constituents. EPA recommends the Navy also consider including silver and vanadium in the future surface soil samples, since they exceeded their corresponding residential PRGs, but not the background criteria established in the October 2006 Background Report in one or more surface soil samples.

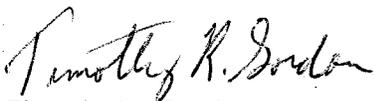
Also, since the concentrations of several inorganic constituents (barium, chromium, copper, and zinc) in subsurface soils exceeded their background criteria as established in the October 2006 Background Report, EPA interprets the above statement to include those constituents, even though they did not exceed their residential or industrial PRGs. In addition, since arsenic exceeded the human health residential and industrial PRGs at 4 of the 8 subsurface soil sample locations at SWMU 29 (i.e., at 29SB01-02, SB04-02, SB05-02, and SB06-02); while vanadium exceeded both its residential and industrial PRGs at 7 of the 8 subsurface soil sample locations, please include both constituents as constituents of concern for the subsurface soil investigations, even though they did not exceed their background criteria as established in the October 2006 Background Report.

In addition, the statement in Section 6.1 (Conclusions) of the report that “The subsurface soil did not exhibit any exceedances of the human health or ecological screening criteria....” is not correct and needs revised. Although below their background criteria as established in the October 2006 Background Report, arsenic exceeded the human health residential and industrial PRGs at 4 of the 8 subsurface soil sample locations at SWMU 29 (i.e., at 29SB01-02, SB04-02, SB05-02, and SB06-02); while vanadium exceeded both its residential and industrial PRGs at 7 of the 8 subsurface soil sample locations and was above its residential PRG (7.82 mg/kg) in all 8 subsurface soil samples collected at SWMU 29. Ecological screening criteria were exceeded for at least 5 inorganic constituents (chromium, cobalt, copper, nickel, and vanadium) in 1 or more of the subsurface soil samples. Therefore, the above statement in Section 6.1 needs modified.

Furthermore, EPA has concerns about the validity of the basewide background criteria for vanadium, as discussed in my May 29 and June 11, 2007 letters. Therefore, with regards to vanadium in the surface soils, EPA does not concur with the Recommendation in Section 6.2 of the Draft Phase I RFI Report that the additional investigations be limited to delineating "...the site contamination above background levels...". Rather, pending submission of additional data to support the validity of the natural background concentrations for vanadium as established in the Background Report, EPA requests that the additional investigations at SWMU 29, include vanadium as one of the inorganic constituents to be further investigated in surface and subsurface soils at SWMU 29.

Within 60 days of your receipt of this letter, please submit either individual draft Work Plans or a single combined Work Plan for completing a "Full RFI" for each of the 3 SWMUs, that meets the requirements discussed above and in Paragraph 25.H (Contingent Investigation and Corrective Action Requirements for SWMUs 27, 28, and 29) of the Consent Order. If you have any questions, please telephone me at (212) 637- 4167.

Sincerely yours,



Timothy R. Gordon
Project Coordinator
Caribbean Section
RCRA Programs Branch

cc: Ms. Yarissa Martinez, P.R. Environmental Quality Board
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