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August 27, 2001

U.S. Environmental Protection Agency – Region II
290 Broadway – 22nd Floor
New York, NY 10007-1866Attn: Mr. Timothy Gordon
Acting Chief, RCRA Caribbean SectionRe: Contract N62470-95-D-6007
Navy CLEAN, District III
Contract Task Order (CTO) 099
U.S. Naval Station, Roosevelt Roads (NSRR), Puerto Rico
Response to EPA Comments dated July 5, 2001
Final Sampling and Analysis Report for SWMUs 53 and 54
Draft RFI Work Plan for SWMUs 53 and 54
RCRA/HSWA Permit No. PR2170027203

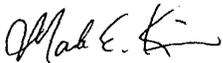
Dear Mr Gordon:

Baker Environmental, Inc. (Baker), on behalf of the Navy, is providing you with the Navy's Response to EPA's Comment letter dated July 5, 2001 regarding the Draft Sampling and Analysis Report for SWMUs #53 and #54. This document has been revised in accordance with communications between your office and Mr. Kevin Cloe and as detailed in the response. Two copies of replacement pages for the Draft Sampling and Analysis Report with directions to make the Final Sampling and Analysis Report for SWMUs 53 and 54 are also attached. The RFI Work Plan for SWMUs 53 and 54 is also attached for your review in accordance with your letter dated July 5, 2001. Additional distribution of the Response to EPA Comments dated July 5, 2001, Final Sampling and Analysis Report for SWMUs 53 and 54, and Draft RFI Work Plan for SWMUs 53 and 54 has been made as indicated below.

If you have any questions regarding this submittal, please contact either me at (412) 269-2009 or Mr. Kevin Cloe at (757) 322-4736.

Sincerely,

BAKER ENVIRONMENTAL, INC.

Mark E. Kimes, P.E.
Activity CoordinatorMEK/lp
Attachmentscc: Mr. Kevin R. Cloe, LANTDIV - Code EV23KRC (3 copies)
Ms. Madeline Rivera, NSRR (4 copies)
Mr. Carl Soderberg, US EPA Caribbean Office (1 copy)
Ms. Kathy Rogovin, Booz Allen & Hamilton (1 copy)
Ms. Asa Colon, PREQB (2 copies)
Mr. John Tomik, CH2M Hill Virginia Beach (1 copy)

**NAVY RESPONSES TO EPA COMMENTS DATED JULY 5, 2001 ON
THE DRAFT SAMPLING AND ANALYSIS REPORT FOR SWMUs 53 AND 54
DATED APRIL 11, 2001**

EPA Comment No. 1

1. *In the first paragraph of Section 5.3.1 (Surface Soil results for SWMU #54) on page 5-4 of the report and in the first paragraph on page ES-6 of the "Executive Summary," it is stated that 5 PAH compounds were detected and that "It should be noted that all of these detections were below any of the screening criteria RBCs . . ." However it is then stated in the following sentence that "Except for benzo(a)pyrene Which was detected above the residential RBC...." These two statements conflict. EPA requests that the language in Section 5.3.1 of the report and on page ES-6 of the "Executive Summary," as well as elsewhere in the report or "Executive Summary," as necessary, should be revised to correct such inaccurate or conflicting language. In addition, to be more fully accurate, Section 5.3.1 and page ES-6 of the "Executive Summary" should be revised to also note that the detection limits for benzo(a)pyrene in all 18 surface soil samples at SWMU 54, except for perhaps one sample were above the Region 3 residential RBC screening values, and in that one sample (54SS07), benzo(a)pyrene was in fact detected at an estimated concentration of 580 ug/kg, well above the residential RBC of 87 ug/kg. Also, the detection limits for benzo(a)pyrene were above the industrial RBC screening values in all but 3 of the surface soil samples at SWMU 54, but in those 3 samples the measured concentrations were below the industrial RBC.*

Navy Response to EPA Comment No. 1

The text was revised in Section 5.3.1 and the Executive Summary to more accurately describe the detections in the surface soil. The revised text reflects that detection limits for benzo(a)pyrene were exceeded in all but a few samples for residential and industrial RBC screening values. In addition the text was modified to reflect that the detection limits for benzo(a)anthracene were also above the residential RBC values for all samples except three.

EPA Comment No. 2

2. *In the Conclusions for SWMU 53 on page 6-1 of the report and on page ES-9 of the "Executive Summary," there is no discussion regarding the elevated lead detections in the surface soils (6 out of 9 samples exceeded EPA's Interim Soil Lead Guidance [July 14, 1994] acceptable soil concentration of 400 mg/kg lead, with a maximum detected concentration of 3900 mg/kg). Also arsenic, exceeded its Region 3 residential carcinogenic risk based concentration (RBC) of 0.43 mg/kg in 15 out of 15 samples, with a maximum detected concentration of 5.6 mg/kg. These analytical results clearly indicate that there has been a release of lead to the surface soils, since 4 of the 6 samples with elevated lead concentrations had concentrations of 2,200 mg/kg lead or more, which exceeds the [natural occurring] "average detected background" concentration of 7.515 mg/kg, by nearly 300 [exactly 293] times. The significance of the arsenic detection is less clear, since the maximum concentration detected (5.6 mg/kg), only exceeds the [natural occurring] "average detected background" concentration of 1.4 mg/kg, by four times.*

Likewise in the Recommendations for SWMU 53 on page 6-3 of the report and page ES-11 of the "Executive Summary," it is stated that a [full] RFI should "...be conducted at this SWMU to delineate the 4,4 -DDT contamination in the surface soils;" yet there is no discussion regarding the elevated lead and arsenic detections. EPA requests that within 45 days of your receipt of this letter, the Navy submit a revised Conclusions and Recommendations for SWMU 53 (Pages 6-1 & 6-3 of the report and

pages ES-9 and ES-11 of the "Executive Summary") which acceptably address the elevated metal concentrations (especially the elevated lead, and to a lesser extent the arsenic) detected in the surface soils at SWMU #53.

Also, as recommended in Section 6.2 (page 6-3) of the Report, within 45 days of your receipt of this letter, please submit an RFI work plan to fully characterize the surface soils impacted by releases of 4,4'-DDT from SWMU #53, and, as per the above comments on the elevated metal concentrations, to also fully characterize the surface soils for lead and possibly arsenic impacts.

Navy Response to EPA Comment No. 2

The conclusion has been revised for SWMU 53 to specify that lead and arsenic were detected above their respective criteria in many samples. Likewise, the recommendation for SWMU 53 was revised to incorporate further investigation of surface soil, specifically lead and arsenic (along with 4,4'-DDT) will be performed during the RCRA Facility Investigation.

A RFI work plan was developed to characterize surface soil impacted by 4,4'-DDT, lead, and arsenic and is included in this submission. Also included is the revised text for the Sampling and Analysis Report for SWMUs 53 and 54.

EPA Comment No. 3

3. *In the Conclusions for SWMU #54 (on page 6-2 of the Report and pages ES-9 and 10 of the "Executive Summary"), it is stated that the results do not indicate that groundwater has been impacted by SWMU #54, and that "...the contaminants detected in the groundwater are due to releases] from the Building 510 site that is located upgradient of SWMU #54." EPA does not accept either conclusion, and has a number of concerns about these conclusions, including:*

- a) *groundwater in three wells immediately south of SWMU #54 has clearly been impacted by contaminant releases: well 510 DW-1 had benzene at 91 ug/L (MCL = 5 ug/L) and isobutanol at 2900 ug/L (Region 3 RBC for Tap water = 180 ug/L); well 510 MW5 had Trichloroethene at 230 ug/L (MCL = 5 ug/L); and well 510 MW3 had Trichloroethene at 5.9 ug/L (MCL = 5 ug/L) and Chloroform at 5.8 ug/L (Region 3 RBC for Tap water = 0.15 ug/L);*

Navy Response to EPA Comment No. 3a

The Navy agrees that trichloroethene needs to be examined further at SWMU 54, however the Navy does not believe that petroleum-related contamination was caused by SWMU 54. The results of the BB&L report indicated that contaminated groundwater appeared to be limited to the area of the former UST location. The December 2000 Sampling Investigation supports this statement. The conclusions in the BB&L report also state that natural biodegradation processes are expected to continue to reduce the levels of petroleum contaminants in the soils and groundwater at the site. The results from the December 2000 investigation strongly indicate that biodegradation of the plume is occurring. The Navy agrees that these wells have been impacted by a (UST) release, however this release is not from SWMU 54, rather it is from the tank associated with Building 510. The mapping in the report was modified to show the former locations of the UST associated with Building 510. The text was also revised to explain that the Building 510 site consists of the UST, not the actual Building. The UST associated with Building 510 was utilized to store fuel not solvents.

Although results from the December 2000 sampling investigation showed that well 510-DW1 had a detection of benzene at 91 ug/L, this value is considerably less than the value found during the 1995 site characterization which was 4,800 ug/L. Total BTEX in this well has also decreased from 7,590 ug/L to 145.7 ug/L. Section 5.3.5 was added to the text to show that contaminants have substantially decreased by comparing the results from the 1995 samples (BB&L report), to the results from samples collected during the December 2000 field investigation. These results support the conclusion of the BB&L report that natural biodegradation of the petroleum related plume is occurring. Therefore the contaminants identified in the groundwater other than those associated with fuels are not likely to be associated with Building 510, rather they may be associated with Building 1686. An Additional investigation needs to be conducted at SWMU 54 to determine the source and extent of the TCE in groundwater. It would be premature at this stage to include Building 510 into the RFI since the UST was utilized to store petroleum related products not solvents and the source of the solvents in groundwater has yet to be determined. Additionally the contaminants associated with the UST from Building 510 are natural degrading as expected under the UST program..

EPA Comment No. 3b

- b) *the groundwater flow patterns have not been adequately defined across the SWMU 54/Building 510 area. In fact, the potentiometric map (Figure 3-1) submitted with the report, does not show Building 510 to be upgradient of SWMU 54. The measured water table elevation of 13.46 feet in well 510-MW4, the well closest to SWMU #54, is clearly higher than the water table elevation of 7.50 feet in well 510-MW2, located adjacent to the former location of Building 510. Therefore, well 510-MW4, the well closest to SWMU 54, is apparently upgradient, not down gradient of well 510-MW2, the well closest to Building 510. Figure 3-1 shows a radial groundwater flow pattern from the well 510-MW1 area, which is located southwest of SWMU #54, with strong southerly gradient (i.e. direction of groundwater flow) towards the former location of Building 510, not away from it, as would be the case if it were upgradient to SWMU 54. The cause of the radial groundwater flow pattern, which is quite anomalous, is not clear from Figure 3-1, nor discussed in the text, and the overall SWMU 54/Building 510 regional groundwater flow regime is not depicted;*

Navy Response to EPA Comment No. 3b

Comment 3b contains four parts, which can be summarized as follows:

1. Groundwater flow patterns have not been adequately defined across the site,
2. Building 510 is not upgradient of SWMU 54,
3. The cause of radial flow is not clear, and
4. A regional groundwater flow regime is not depicted.

Firstly, for the purposes of this investigation, the Navy feels that groundwater flow patterns have been adequately defined. That is, it can be determined whether the presence of groundwater contamination can be related to SWMU 54.

Secondly, the text of the Sampling and Analysis Report was clarified to state that Building 510 refers to the former UST associated with Building 510, and not the building itself. The location of the former UST was also added to Figure 3-1. With the former location of the UST added to the figure (along with the clarification that Building 510 is the UST), it is apparent that the UST is upgradient of SWMU 54.

Thirdly, the radial flow conditions may be related to artificial recharge due to the UST excavation and backfilling activities. The following sentence was added to pg. 3-8 for clarification: "The radial flow pattern observed may be attributed to artificial recharge due to the manner in which the UST excavation was backfilled, causing the backfill to be more permeable than the surrounding clayey soils."

Finally, there are insufficient monitoring wells on a regional basis to depict a more general groundwater flow pattern as requested in the comment. However, regional shallow groundwater flow would generally be expected to follow topography. In the case of the SWMU 54 area, that would be to the west-southwest. Additional temporary monitor well and piezometers are going to be installed during the RFI to obtain additional data for the groundwater flow regime at SWMU 54.

EPA Comment No. 3c

- c) *the report (on page 2-2) and the "Executive Summary" cite the "Site Characterization for Site 510 developed [for the Navy] by Blasland, Bouck, and Lee [BB&L].. " in 1995 as supporting the current conclusions regarding groundwater impacts from Building 510. EPA has no record of the 1995 BB&L data ever being submitted to EPA; and*

Navy Response to EPA Comment No. 3c

Comment noted.

EPA Comments No. 3d

- d) *the Navy has never reported detection of a release from Building 510, as required pursuant to Conditions I.F.20, III.C, and III.D of the 1994 Final RCRA Permit for Naval Station Roosevelt Roads (the Permit), nor has the Navy advised EPA that Building 510 should be identified as a new SWMU [solid waste management unit], as required pursuant to Condition III.C.1 of the Permit.*

Navy Response to EPA Comment No. 3d

As discussed above in the response to Comment 3a, the petroleum related contamination that is evident in the groundwater is attributed to the former UST associated with Building 510, not Building 510 or activities that occurred inside of the building. This storage tank has been investigated and managed under the stipulations of the UST program with the Puerto Rico Environmental Quality Board (PREQB). The source of the contaminants identified in the groundwater other than those associated with petroleum products stored in the UST associated with Building 510 has yet to be determined. The UST associated with Building 510 stored fuel not solvents and is therefore not likely to be the source of the release of solvents to the groundwater. Therefore, the Navy does not feel that Building 510 should be identified as a new SWMU.

EPA Comment

For all the above reasons, EPA does not approve the no further action recommendation for SWMU #54 as recommended in Section 6.2 (page 6-3) of the report and on page ES-11 of the "Executive Summary." Furthermore, since the detection of releases from Building 510 has never been reported to EPA, or defined as a new SWMU, as required by the Permit, and since the two buildings are in close proximity to one another

and it would be difficult to determine whether the constituents detected in the groundwater were sourced by releases from Building 1914 (SWMU #54) or Building 510, EPA recommends that instead of defining Building 510 as a new SWMU, SWMU #54 should be redefined to include both Building 1914 and the former Building 510.

Navy Response to EPA Comment

The recommendations section for SWMU 54 has been revised to state that the presence of TCE will be examined in the RFI. The Navy feels that it is not necessary to include Building 510 in SWMU 54, the contaminants from this tank were handled under the UST program (under supervision of the PREQB) and are naturally biodegrading as recommended in the Site Characterization Report. The text in Section 2.3 of the report has been revised to include a description of the UST associated with Building 510 in the description of SWMU 54. Also, as discussed above, natural degradation is occurring in the wells that are located in close proximity to the location of the former UST. As discussed previously in the Navy responses, the Navy does not feel it necessary to include Building 510 into this SWMU, rather investigate the solvents detected in the groundwater under the RFI for SWMU 54. Building 510 does not exhibit a history, which would relate solvent to the UST associated with Building 510.

EPA Comment

Therefore, within 45 days of your receipt of this letter, please submit either:

- a) revised Conclusions and Recommendations for SWMU #54 (on pages 6-1 through 6-3 of the report and pages ES-9 and 10 of the "Executive Summary") and other sections of the Sampling and Analysis Report as necessary, to reflect that SWMU #54 has been redefined to include any releases from either Building 1914 or former Building 510, and that further characterization of the groundwater is required, along with an RFI work plan for further groundwater characterization of the entire SWMU 54 area (including both Building 1914 and former Building 510), especially north and northeast of well 510-MW4, or*
- b) pursuant to Condition III.C of the Permit, a new SWMU notification and a SWMU Assessment Report for Building 510, along with revised Conclusions and Recommendations for SWMU #54 (on pages 6-1 through 6-3 of the Sampling and Analysis Report and pages ES-9 and 10 of the "Executive Summary"), to reflect that further characterization of the groundwater is required for the area encompassing both SWMU 54 and the new SWMU which will have been defined for Building 510, and an RFI work plan for further groundwater characterization of the entire SWMU 54/Building 510 area, especially north and northeast of well 510-MW4.*

Navy Response to EPA Comment

As discussed in previous responses, the text, figures, conclusions and recommendations have been revised to specify that a former UST was located adjacent to building 510, and that further characterization of groundwater is necessary to investigate an unknown release of TCE. A RFI work plan for SWMU 54 is included with this submission, which discusses how groundwater will be investigated further at SWMU 54.

EPA Comment

In addition, within 45 days of your receipt of this letter, please submit two copies of the report on the "Site Characterization for Site 510 developed [for the Navy] by Blasland, Bouck, and Lee [BB&L]." in 1995.

Response to EPA Comment

Two copies of the text from the requested report is included as part of this submission.