

RESPONSE TO EPA COMMENTS, DATED 29 MAY 1997

GENERAL COMMENT:

The report appears to adequately describe activities associated with the removal effort at Study Area 4, CED Asphalt Disposal Area. However, some supporting documentation for the decisions reached in the removal effort, specifically laboratory analytical data sheets from confirmatory sampling and waste characterization sampling, have not been included as part of this report. In addition, the document does not address beryllium and lead as contaminants. These compounds were identified in the Revised Final Action Memorandum Sites 2 & 3 And Study Area 4, NCBC Davisville, Rhode Island. In the memorandum, beryllium and lead were detected in preliminary site investigation work at Study Area 4 and were identified as potential chemicals of concern regarding a human health risk assessment. This issue will need to be addressed in detail in the RI for the entire sites 1, 2, 3& 4 and does not need to be addressed in detail in this report.

Soils and liquids hazardous for lead and PCBs were included on manifests included in this document and noted as being from NCBC in the table. Please clarify the disposal analysis and results of the soils (and liquids?) removed from Site 4 during this removal action.

Specific comments on issues in the report are provided as follows:

Response: While the complete analytical data set is not included with this removal action closeout report, summary tables have been provided. The full analytical data set has been provided by Foster Wheeler to those members of the BCT who had previously requested copies. The full analytical data set is also available at the CSO at NCBC. The text will be modified on page 1, as stated below.

Page 1: "An additional report is currently being prepared by Foster Wheeler. The *Contractor's Close-Out Report For The Removal Action At Study Area 4, Naval Construction Battalion Center (NCBC) Davisville, Rhode Island* (Contractor's Close-Out Report), dated April 1997, contains additional information about the chronology of events, work performed, and analytical testing. The Contractor's Close-Out Report serves as a removal action documentation report from the RAC performing the removal action activities and is available at the Caretaker Site Office (CSO) Davisville. The Contractor's Close-Out Report also contains record documents, including analytical laboratory reports, field change requests and delivery order modifications. While the complete analytical data set is not included with this removal action closeout report, summary tables have been provided. The full analytical data set has been provided by Foster Wheeler to those members of the BRAC Cleanup Team (BCT) who had previously requested copies. The full analytical data set is also available at the CSO at NCBC."

In addition, the presence of beryllium and lead in soil at Study Area 4 will be addressed as part of the RI for Sites 2 and 3, and Study Areas 1 and 4. The text will be modified on page 11, as stated below.

Page 11: "Removal action activities at Study Area 4 have been completed as presented herein. The asphaltic material has been removed in accordance with the Rhode Island Solid Waste Regulations. Analytical results of confirmatory soil samples were below the established site cleanup criteria of 10 ppm PCB and 300 ppm TPH. In addition, the presence of beryllium and lead in soil at Study Area 4 will be addressed as part of the RI for Sites 2, 3 and Study Areas 1 and 4."

The hazardous waste manifest included as disposal documentation for the PPE generated at Study Area 4 also contains wastes generated at other NCBC sites, as various wastes from Site 13 and Study Area 4 were shipped off-site at the same time. The information applicable to Study Area 4 is included on manifest # NJA 2731074, line C of part 11, included in Appendix B. The PPE was disposed as non-RCRA solid. One of the 12 drums listed contained the PPE from Study Area 4 removal action activities. The waste characterization results are presented in Table 8 (formerly Table 7). The lead and PCB contaminated material was not generated at Study Area 4. The other hazardous waste manifest will be removed from the appendix.

Responses to specific comments are provided below.

SPECIFIC COMMENTS:

1. Comment: *Section 1.1 Introduction, Page 1, Paragraph 1, last sentence. Please rename this report to the "Removal Action Closeout Report" for clarity since report deals only with the removal action and groundwater is being addressed under the Sites 1, 2, 3, & 4 ROD.*

Response: The report will be renamed to the "Removal Action Closeout Report" as requested.

2. Comment: *Section 1.2 Site History and Description, Page 2, Paragraph 1. The document briefly states that a culvert is located at the western edge of the trench. The depth and exact location of this trench have not been specified. The paragraph also states that the culvert appears to be in disrepair and that it is no longer hydraulically connected to a stream (the discharge). It is not clear if this culvert was in working condition during the period when asphalt piles were present in the trench. As a result the potential for the migration of the contaminants of concern from the piles to the stream existed. It does not appear that this pathway was adequately characterized. It is recommended that this issue be addressed. Additional samples may need to be collected in the stream at the culvert's point of discharge to this stream to determine if the stream was impacted.*

Response: As per a telephone conversation between Christine Williams of EPA and Monica Berube of Stone & Webster on 04 June 1997, the text will be modified to include a more detailed description of the culvert and its relation to the trench and to the study area. The modified text

will be included on page 2 of the document as it appears below.

Page 2: "The CED Asphalt Disposal Area consists of an open trench, approximately 600 to 700 feet in length, 8 to 15 feet wide, and 2 to 5 feet in depth. In general, the trench becomes narrower and shallower from the eastern to western end. According to the *Study Area Screening Evaluation (SASE)*, prepared by Halliburton NUS, September 1994, a partially filled or collapsed culvert is present at the western end of the trench where the trench formerly discharged to a small stream. The culvert appears to be in disrepair and it appears the trench is no longer hydraulically connected to the stream.

Ground water at Study Area 4 generally flows to the east, and it is assumed that surface water runoff parallels the direction of ground water flow. As the culvert is located in the western end of the trench, the area of the asphaltic material disposal is located downgradient of the culvert. Therefore, the potential for the migration of the constituents of concern from the asphaltic material to the stream does not exist.

The area of concern at this study area was the eastern 150 feet of the trench where asphaltic material was disposed in two distinct areas of the trench. One asphaltic material disposal area was approximately 19.5 feet by 9.5 feet and 3 to 4 feet in depth, and the other area was 45 feet by 9.5 feet and 1 to 2 feet in depth, according to the *Initial Assessment Study (IAS)*, prepared by Fred C. Hart Associates in 1984.

The asphaltic material was described as non-hazardous and insoluble in water in both the SASE and in the IAS, therefore the potential for the constituents in the material to migrate via surface water runoff or leachability was deemed negligible."

3. Comment: *Section 2.0 Removal And Disposal Activities, Page 3, Paragraph 2. This section should discuss the fact that several rounds of confirmatory sampling occurred and refer to the photographs accordingly. Also, the statement "suitable off-site fill" should be described more precisely in this section, stating the appropriate RIDEM or RIGL approved criteria for "clean" backfill to reassure Federal and/or State compliance. This section should also reference the table(s) where the various results are included. Additionally, the photos are a great addition, if they are legible. Will the final documents include original photos for clarity?*

Response: The text will be modified on page 4, as stated below, to incorporate the comment. Please note that the backfill material used at Study Area 4 was the same as that approved and used for Site 13. Color photos have been provided in the Contractor Close-Out Report which was sent to the regulators and is available for viewing at the CSO. In addition, these photos will be available on CD-ROM when the Administrative Record is complete.

Page 4: "The removal action at Study Area 4, the CED Asphalt Disposal Area, was performed

from May 1996 through January 1997. The removal action involved the excavation and off-site disposal of asphaltic material and adjacent soil. The removal action at Study Area 4 was performed to comply with the Rhode Island General Law (RIGL) 23-18.9-5. This regulation requires removal and disposal of solid waste greater than three (3) cubic yards, which includes the asphaltic material at Study Area 4. The following section further presents the removal activities. Sampling and analysis of the soil was performed for waste characterization, and the waste materials were disposed off-site.

RAC activities at Study Area 4 included the excavation and off-site disposal of asphaltic material and adjacent soil. Soil removal activities ceased when analytical results from confirmatory soil samples collected from the completed excavation were within the direct exposure criteria of 10 parts per million (ppm) polychlorinated biphenyls (PCB), as promulgated in the revised *Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases* (Remediation Regulations), prepared by the Rhode Island Department of Environmental Management (RIDEM) Division of Site Remediation, and 300 ppm total petroleum hydrocarbons (TPH) as stated in the Action Memorandum.

Several rounds of confirmatory sampling were performed, as presented in the following section. Tables 3 through 7 summarize the analytical results of the confirmatory sampling. Figure 4 presents the sampling locations, and Appendix C presents photodocumentation of the removal action activities.

The excavation was backfilled with off-site fill material, which satisfied the requirements stated in the draft *Non-Time Critical Removal Action For Study Area 4 At CBC Davisville, Rhode Island*, prepared by Stone & Webster, dated 17 August 1995, as presented in Section 4.1 and rough graded. A sample of the backfill material was collected and analyzed to ensure the characteristics of the material were within approved criteria. The sample was analyzed for inorganics, VOC, SVOC, pesticides, PCB, and TPH. A summary of the analytical results of the backfill material sample is presented in Table 9. Seeding of the area was performed in May 1997. Copies of representative photographs, taken before, during and after completion of the removal action, are included in Appendix C. Color photographs are also available at the CSO.

4. Comment: *Section 2.1 Asphaltic Material And Soil Excavation, Page 3, Paragraph 2 and Page 4 Paragraph 1. The statement is made that "field screening was not performed initially". Because field screening was performed during later rounds of excavation, the text should present the rationale for not screening during the initial excavation rounds. Also, the text should clearly identify the established cleanup criteria for PCB's and TPH in soil to facilitate referencing Tables 3, 4 and 5.*

Response: The text will be modified on page 5, as stated below, to incorporate the comment.

Page 5: "Confirmatory soil samples were collected after the asphaltic material was removed, and analyzed for PCB and TPH as described in Section 3.2. Field screening was not required during the removal of the asphaltic material, as the characterization of the asphaltic material had previously been performed.

Analytical results of the first round of confirmatory samples indicated the presence of PCB and TPH in remaining soil at concentrations greater than the established cleanup criteria of 10 ppm and 300 ppm, respectively, as presented on Table 3."

5. Comment: *Section 2.1 Asphaltic Material And Soil Excavation, Page 4, Paragraph 4. The final soil sample results confirming cleanup criteria from the excavations should be presented in a Table.*

Response: A new table which clearly presents only the final confirmatory sample results, has been created and is provided below.

TABLE 7

SUMMARY OF FINAL CONFIRMATORY SAMPLE RESULTS

ANALYTICAL LABORATORY

Sample Date	Sample Identifier	PCB (ppm)	TPH (ppm)	Comments
11/08/96	SA4-SS2FL-110896	0.80	< 73	Floor sample.
	SA4-SS4SW-110896	0.04 U	< 77	Sidewall sample.
	SA4-SS8FL-110896	1.50	150	Floor sample.
	SA4-SS9FL-110896	2.50	< 76	Floor sample.
11/21/96	SA4-SS1AFL-112196	0.13	< 73	Floor sample.
	SA4-SS3ASW-112196	1.10	240	Sidewall sample.
	SA4-SS10ASW-112196	0.31	< 70	Sidewall sample.
	SA4-SS11ASW-112196	8.30	260	Sidewall sample.
	SA4-SS14-112196	0.72	< 73	Floor sample.
	SA4-SS15-112196	4.30	240	Floor sample.
12/03/96	SA4-SS5BFL-120396	0.04 U	< 74	Floor sample.
	SA4-SS7BFL-120396	0.04 U	79	Floor sample.
12/05/96	SA4-SS6CFL-120596	0.03 U	< 69	Floor sample.
	SA4-SS12CSW-120596	0.44	< 72	Sidewall sample.

SA4-SS13CSW-120596	0.04	< 76	Sidewall sample.
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6. Comment: *Section 3.0 Sampling And Analytical Results, Page 5.* This section specifically cite the final confirmatory samples from the sidewalls and bottom of the excavations in text. This information should also be available in a table to clearly present the fact that the criteria were meet.

Response: As presented above, a new table which clearly presents only the final confirmatory sample results, has been created and is provided for review.

7. Comment: *Section 3.1 Immunoassay Field Screening, Page 5.* The procedure used during the field screening should be clearly described in the text to ensure adherence with EPA Region I guidance.

Response: The text will be modified on page 7, as stated below, to further describe the field screening procedure.

Page 7: "Soil sampling and field screening was performed on the soil remaining in the sidewalls and floor of the excavation upon completion of the removal of the asphaltic material from the trench. Field screening was performed during Round III and Round IV of confirmatory sampling in conjunction with laboratory analysis. Field screening results were used to direct further soil excavation. Soil samples were collected and field screened for PCB and TPH as described below.

Field screening for PCB was performed by EPA Method 4020, an immunoassay method for field screening of soil samples for PCB. This method was also recently employed during the removal action at Site 13, as described in a letter regarding PCB Field Sampling at Site 13, prepared by Foster Wheeler on July 26, 1996. The assay uses antibodies and enzyme conjugate systems to provide the basis for a calorimetric result which is inversely proportional to the amount of analyte in a given sample. The color resulting from the presence of an analyte in the sample is measured versus a color developed from a standard to provide semi-quantitative results. The detection limit for PCB using this procedure is 1 ppm. A Standard Operating Procedure is included in the aforementioned letter written by Foster Wheeler.

Field screening for TPH was performed using PetroFLAG™ test kits, developed by Dexsil Corporation. According to Dexsil, PetroFLAG™ has received SW-846 draft method approval number 9074 from the EPA. Hydrocarbons are detected through a three step process, which involves solvent extraction, filtering of particulate matter, and aqueous development of the sample. When the developing solution is added to the soil extract, a reaction occurs and a response is developed. The response is in proportion to the amount of hydrocarbon contained within the sample. The absorbance of the mixture is

measured with the turbidimeter, and the reading is converted into parts per million of petroleum hydrocarbons. The detection range is from 10 to 20000 parts per million.”

8. Comment: *Section 3.3 Waste Stream Characterization, Page 7. The laboratory data for the PPE composite sampling for waste characterization should be included in the report. The text should clarify exactly what analysis was performed and what the results of the analysis were.*

Response: While the complete analytical data set is not included with this removal action closeout report, summary tables have been provided. The full analytical data set has been provided by Foster Wheeler to those members of the BCT who had previously requested copies. The full analytical data set is also available at the CSO at NCBC. In addition, the text will be modified on page 9, as stated below, to clarify the specific analyses performed and to state the results.

Page 9: “Composite samples were collected from the containerized PPE, such that the samples were representative of the contents in the drum. The samples were placed in appropriately labeled containers and analyzed for PCB by EPA Method 8080 and TPH by Method 418.1. Two samples of PPE were collected by the RAC for waste characterization prior to off-site disposal. PCB was detected in one sample at a concentration of 0.2 ppm, and TPH was detected in one sample at a concentration of 1800 ppm. Table 8 summarizes the analytical laboratory sample results. Appendix B includes the disposal documentation for the off-site disposal of the PPE.”

9. Comment: *Section 3.4 Analytical Results, Page 7. Because the closure of this removal action is based on achieving the established cleanup criteria, the analytical data should be included in the report for verification purposes.*

Response: As previously stated, while the complete analytical data set is not included with this removal action closeout report, summary tables have been provided. The full analytical data set has been provided by Foster Wheeler to those members of the BCT who had previously requested copies. The full analytical data set is also available at the CSO at NCBC.

10. Comment: *Section 4.0 Site Restoration, Page 8. The statement “common fill” should be defined more accurately. The minimum state guidelines for this material should be listed and analytical results for the fill should be included in the report. Also, the report should also describe any backfilling criteria that were met during the removal action.*

Response: The text will be modified on page 10, as stated below, to include a more detailed discussion of the fill material and procedure. A new table which summarizes the analytical results of the fill material analysis has been prepared and is provided below for your review.

Page 10: “Upon completion of removal activities, the excavated area was backfilled with

suitable off-site fill material and compacted to grade in accordance with the requirements set forth in the Removal Action document. This fill material was obtained from Richmond Sand and Gravel, Inc. located in Wyoming, Rhode Island.

The fill was analyzed and compacted, as required in the Removal Action document. The clean fill material was sampled and analyzed in accordance with the requirements set forth in the RIDEM Remediation Regulations. Fill material was analyzed for Target Compound List (TCL) organics (including VOC, SVOC, pesticides, and PCB), Target Analyte List (TAL) inorganics, and TPH. The analytical results for the clean fill sample were within the guidelines for residential direct exposure established in the RIDEM Remediation Regulations. Table 9 presents a summary of the analytical results of the clean fill sample. The backfilled areas were compacted and graded to existing grade.

Upon completion of removal action activities and backfilling of the excavation, the high visibility fencing, caution signs, site trailers, and other equipment were removed.”

TABLE 9

SUMMARY OF CLEAN FILL MATERIAL SAMPLE RESULTS

PARAMETER/ANALYTE	RESULT
Inorganics (mg/Kg)	
Aluminum	2750
Barium	16.1 B
Beryllium	0.5 B
Calcium	544 B
Chromium	2.2
Cobalt	2.5 B
Copper	4.5 B
Iron	7750 B
Lead	3.3
Magnesium	721 B
Manganese	183
Potassium	521

Sodium	36.3
Vanadium	5.5
Zinc	32.4
Volatile Organic Compounds (ug/Kg)	ND
Semivolatile Organic Compounds (ug/Kg)	
Phenol	64 JB
Pesticides/PCB (ug/Kg)	ND
TPH (mg/Kg)	<69

Notes: J - Estimated Value

B - Analyte Detected in Blank

ND - Not Detected

11. Comment: *Section 5.0 Conclusions, Page 9. While we agree the PCBs and TPH has been removed IAW the Action Memorandum, the remaining issue of lead and beryllium should be addressed in the Site 1, 2, 3 & 4 RI.*

Response: The text will be modified on page 11, as stated below, to include a statement regarding the RI currently being performed for Sites 1, 2, 3, and Study Area 4.

Page 11: "Removal action activities at Study Area 4 have been completed as presented herein. The asphaltic material has been removed in accordance with the Rhode Island Solid Waste Regulations. Analytical results of confirmatory soil samples were below the established site cleanup criteria of 10 ppm PCB and 300 ppm TPH. In addition, the presence of beryllium and lead in soil at Study Area 4 will be addressed as part of the RI for Sites 2, 3 and Study Areas 1 and 4."

RESPONSE TO RIDEM COMMENTS, DATED 10 JUNE 1997

1. **Comment:** *Section 4.1, Backfilling and Grading - Please provide a Table of the analytical results of the backfill material that demonstrates the backfill material meets the RIDEM residential direct exposure criteria.*

Response: As presented in the response to EPA comment number 10, a new table which summarizes the analytical results of the fill material analysis has been prepared and is provided for your review.

2. **Comment.** *Please include a letter that states the Navy accepts the work performed in conjunction with this removal action.*

Response: An additional section entitled "Approval" will be added to the document. This section will document Navy approval of the completion of the removal action for Study Area 4, as presented below.

Page 13: "This Closeout Report represents the selected removal actions for the CED Asphalt Disposal Area (Study Area 4) at the Naval Construction Battalion Center in Davisville, Rhode Island, developed in accordance with CERCLA as amended, and not inconsistent with the NCP. This decision is based on the administrative record for the site.

U.S. Department of Navy

By: _____
Philip S. Otis, P.E.
BRAC Environmental Coordinator"