



CP-01307-03.01-08/06/93

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

AUG 06 1993

4WD-FFB

Mr. R. D. Nelson
Natural Resources
and Environmental Affairs Officer
Marine Corps Air Station
Cherry Point, North Carolina 28533-5001

RE: MCAS Cherry Point
Draft Final RFI Report
North Carolina

Dear Mr. Nelson:

The Environmental Protection Agency (EPA) has received and reviewed the draft final RCRA Facility Investigation Report and has the enclosed comments. Please provide the Agency with a response to the enclosed comments no later than thirty (30) days from receipt of this letter.

If you have any questions, please call Ms. Michelle M. Glenn, of my staff, at (404) 347-3016.

Sincerely,

A handwritten signature in cursive script that reads "Jon D. Johnston".

Jon D. Johnston, Chief
Federal Facilities Branch
Waste Management Division

cc: Gary McSmith, LANTDIV
Peter Burger, NCDEHNR

1.0 General Comments

1. Response to EPA General Comment No. 6:
The response still does not indicate how data presentation (e.g., tabulation) will be improved.
2. Response to EPA General Comment No. 8:
The EPA General Comment No. 8 requests that any effects of tides on sediment and surface water sampling be addressed. The response indicates that wind-driven "tides" or mounding influence surface water and sediment sampling as mounding "significantly raises the surface water elevations in the tributaries," however, it fails to address how surface water and sediment sampling locations will be adjusted for any water mounding effects.
3. Response to EPA General Comment No. 9:
The stated data validation approach, while less costly in the short-term, could have unnecessarily overestimated the actual health risks associated with the site by including and using unvalidated data as "positively detected" contaminant concentrations. This would result in overestimated risk levels requiring unnecessarily high cleanup effort and cost.
4. Response to EPA General Comment No. 12:
The Navy's response to EPA General Comment No. 12 stated that borehole geophysical logs, available from U.S. Geological Survey documents, would be included in the Final RFI Report. The logs were not included.
5. Response to EPA General Comment No. 13:
EPA Comment No. 13 discusses the need for aquifer tests and slug tests. The response adequately addresses aquifer (pump) tests but does not adequately explain why slug tests will not be conducted. Data from slug tests is necessary at the RFI stage to estimate rates of contaminant migration and therefore to assist in selecting monitor well locations for plume delineation.

2.0 SPECIFIC COMMENTS

Specific comments are listed on the following pages in the order of their occurrence in the Navy's response to comments, dated May 12, 1993. Each comment refers to the section number, page number or figure as those references appeared in the May 12, 1993, response to comments. Where appropriate, citations to page numbers in the Final RFI Report are provided if different from the page numbers in the Draft RFI Report.

1. Response 4
The response states "This is guidance from the Risk Management division, and is not available in writing." Is it not

possible to obtain written advice for this statement? In the event of an investigation, this would certainly be an achilles heel which might lead to suspicions on other aspects of the project.

2. Response to EPA Comment No. 19

The statement was made that background soil samples should not be analyzed for man-made constituents. Apparently, the logic behind this is that "true" background soils should be in undisturbed areas which have not been contaminated with man-made chemicals. However, this is generally not the case and background information for man-made chemicals can frequently be very useful in determining whether or not the contamination is site related.

3. Response to EPA Comment No. 27

The response states that the URK lead model was not applied because residential land use is not a reasonable scenario for this facility. However, Response 3 indicates that the agreement was made at the March 17, 1993 meeting to evaluate the future residential scenario.

Also, Region IV has recently developed interim guidance concerning the adjustment of the toxicity values to represent an absorbed dose for the dermal pathway. The guidance states that chemical specific oral absorption factors should be used for all chemicals with values available. If there are no chemical specific oral absorption rates available then the following default values are to be used:

VOCs	80 %
SVOCs	50 %
Inorganics	20 %

4. Response to EPA Comment No. 27 on the Draft Final RFI Report, Pages 2-30 through 2-32, Table 2-7, Section 2.6.2.2:

The response fails to address the issue of applying the URK Model to evaluate child exposure to lead. Unless clear justification can be provided, the future residential land-use scenario should be considered likely and be included in the risk assessment.

EPA Region IV guidance should be followed in deriving dermal toxicity values (i.e., reference doses or slow factors) used to quantify risk from dermal exposure.

5. EPA Comment No. 28 on the Draft RFI Report, Table 2-7, Pages 2-30 and 2-31:

EPA requested use of specific toxicological values for various chemicals and compounds. The Navy response was to outline a hierarchy of references that would be consulted to determine the values; however, the values requested in the EPA comment have not been incorporated into the Final RFI Report.

6. Response to EPA Comment No. 29
The response states that the future residential exposure scenario will consider the fact that contaminant concentrations decrease over time. EPA acknowledges that chemicals degrade, to varying degrees, in the environment. However, there are many site and chemical specific factors that must be considered when predicting future contaminant concentrations and the concentrations and toxicities of the breakdown products. For this reason, EPA carefully evaluates any attempt to predict future contaminant concentrations. This may include the collection of site-specific degradation data to verify proposed degradation rates.
7. EPA Comment No. 31 on the Draft RFI Report, Table 2-9, Page 2-35:
EPA's comment requested inclusion of mercury, cyanide and hexavalent chromium in Table 2-9. The Navy response was that inclusion would be reevaluated based on the results of previous sampling. Mercury has been added to the table in the Final RFI Report, but not cyanide and hexavalent chromium.
8. Response to EPA Comment No. 33 on the Draft Final RFI Report, Page 2-38, Paragraph 4:
References and assumptions used in applying the Schaum's Model to the fugitive dust inhalation exposure assessment should be clearly described and incorporated in the Final RFI Report.
9. Response to EPA Comment No. 35
The justification for using the FI term of 50% should be discussed in the RFI report.
10. EPA Comment No. 35 on the Draft RFI Report, Section 2.6.3.2, Page 2-41 (Now Pages 2-49 through 2-52):
EPA's comment requested justification for an exposure frequency of 12 days per year for adolescent trespassers. EPA also requested information on site accessibility. The Navy response stated that exposure factors would be reconsidered; however, the Final RFI Report presents no further information regarding exposure frequency or site accessibility.
11. Response to EPA Comment No. 35 on the Draft Final RFI Report, Page 2-41, Section 2.6.3.2, Soil:
The response to EPA Comment No. 35 is unclear. Rationale should be provided for using the FI term and justification should be presented for the assumption that mowing or site inspections would result in less than 50% of an adult daily soil ingestion.
12. EPA Comment No. 39 on the Draft RFI Report, Section 2.6.3.2, Page 2-52, (Now Page 2-64):
The EPA comment requested justification for a fraction ingested (FI) value of less than 1. The Navy response stated that appropriate revisions would be made; however, the Final RFI Report contains an FI value of 0.5 and presents no

rationale for its selection.

13. Response to EPA Comment No. 40 on the Draft Final RFI Report, Pages 2-51 through 2-55, Tables 2-13 through 2-15:
The 95% upper confidence limits (UCLs) should be calculated and used as exposure concentrations. For those cases where the 95% UCL exceeds the corresponding maximum concentration, the maximum concentration should be used to represent the exposure concentrations.
14. Response to EPA Comment No. 46 on the Draft Final RFI Report, General Human Health-Based Risk Assessment Comments on SWEUs - Units 1 through 50:
The response to EPA Comment No. 46 has not addressed sample analysis for the full Target Compound List/Target Analyte List (TCL/TAL) parameters. The response and rationale given for not including the carcinogenic intakes in these sections are unjustified and unacceptable. Both the noncarcinogenic and carcinogenic intakes should be presented in the tables for completeness and to facilitate verification.
15. Response to EPA Comment No. 47 on the Draft Final RFI Report, Page 4-1:
EPA's Specific Comment No. 47 states that soil, surface water and sediment samples should be collected from representative locations in and around Reed's Cut and its unnamed tributary. The USMC was partially responsive by proposing additional soil and sediment sampling. However, surface water sampling was not addressed.
16. Response to EPA Comment No. 48 on the Draft Final RFI Report, Pages 4-1 through 4-8:
EPA's Specific Comment No. 48 recommends that surface soil samples be collected from the landfills and that surface water and sediment samples be collected both upstream and downstream of Reed's Cut and its tributary. The USMC was partially responsive by proposing additional soil and sediment sampling. However, surface water sampling was not addressed.
17. Response to EPA Comment No. 49
The EPA comment is addressing the groundwater sampling issues. However, the response refers the commenter to Response 47 which discusses soil and sediment concerns but not groundwater.
18. Response to EPA Comment No. 49 on the Draft Final RFI Report, Page 4-1:
EPA's Specific Comment No. 49 requests that investigations analyzed groundwater samples for all priority pollutants. The EPA requested that the analyte list from the previous investigations be compared to the TCL/TAL list and that analytes on the TCL/TAL list not previously evaluated should be analyzed for. This was not addressed.

19. EPA Comment Nos. 47, 48 and 52 on the Draft RFI Report, Sections 4.1 through 4.5, Pages 4-1 through 4-8:
The EPA comments suggested additional soil sampling. The Navy stated that additional sampling would be done. The Final RFI Report states that further soil sampling will be proposed at a later date if a release is confirmed.
20. EPA Comment No. 54 on the Draft RFI Report, Section 5, Paragraphs 5-1 through 5-9:
The EPA comment suggested additional well installation and sampling. The Navy response stated that Unit 3 is an interim status facility, that no further investigation is necessary at this time and that environmental impacts will be addressed at closure. The Final RFI Report states that no further investigation is necessary because previous sampling shows little contamination at the facility and that environmental impacts will be addressed at closure in accordance with the Part B Permit.
21. Response to EPA Comment No. 54
The response states that "Full scan TCU/TAL is inappropriate at this site which is an operating interim status unit." This statement completely contradicts the response for General Comment No. 1, which states, "Units either with no identified releases or active permitted units will not be subjected to an ecological assessment. However, additional sampling may be proposed to determine whether such an assessment may be required at sometime in the future." Besides it is essential to discover all nearby sources of contaminants before designing any recovery system.
22. Response to EPA Comment No. 55 on the Draft Final RFI Report, Page 5-1:
EPA's Specific Comment No. 55 states that the RFI Report assumes groundwater flows to the northeast towards Hancock Creek, but it is not possible to verify the groundwater flow direction in the absence of a topographic map. Also, the EPA states that based on the Figure 5-1, it is likely that groundwater flows radially, spanning from northwest to northeast. If this is the case, then the location of monitoring well 3GW01 may not adequately monitor releases to groundwater. The USMC was partially responsive by stating that topography will be added to Figure 5-1. However, stating that "no further investigation is planned at this time" is not responsive to the EPA's concern that additional monitoring wells may be required to adequately monitor containment releases to groundwater.
23. Response to EPA Comment No. 56
How will this highly restricted area hinder the quality of the site analysis?
24. EPA Comment Nos. 55, 56, 59 and 60 on the Draft RFI Report, Page 5-1 (Now Page 5-2) and Figure 5-1:

The EPA comments questioned conclusions regarding the direction of groundwater flow and monitoring well placement. The Navy response was that topography would be added to Figure 5-1. The topography has been added, but is inconclusive in answering EPA concerns.

25. EPA Comment Nos. 57 and 58 on the Draft RFI Report, Section 5.2.2, Paragraph 1, Page 5-3:
The EPA comment suggested sample analyses for gasoline related compounds. The Navy response was that no further investigation was planned. Furthermore, the Final RFI Report does not provide for the requested sampling.
26. Response to EPA Comment No. 59 on the Draft Final RFI Report, Page 5-3:
EPA's Specific Comment No. 59 states that additional information is needed to determine whether groundwater flow beneath the Unit flows toward Still Gut and that a background well is also needed. The response only states that topography will be added to the site map and does not address groundwater flow direction and the need for an upgradient monitor well.
27. Response to EPA Comment No. 60 on the Draft Final RFI Report, Page 5-9:
EPA's Specific Comment No. 60 states that the site boundaries need to be clearly defined and additional groundwater and soil samples may be necessary in order to adequately characterize the site. The EPA also requests that one upgradient monitoring well and two additional shallow downgradient monitoring wells should be installed in order to adequately assess potential contaminant releases to groundwater. The USMC was partially responsive by agreeing to revise the text and the site figures to clearly show the site boundaries and also that topography will be added to the figure. However, the USMC has failed to acknowledge the need for additional monitoring wells to adequately assess the groundwater quality.
28. EPA Comment No. 65 on the Draft RFI Report, Table 6-3:
The EPA comment pointed out that the detection limit for lead in groundwater is 15 micrograms per liter (ug/l), with which the Navy agreed; however, the indicated lead detection limit in the Final RFI Report is 30 ug/l.
29. EPA Comment No. 66 on the Draft RFI Report, Section 6.6.2, Page 6-18 (Now 6-22):
The EPA comment suggested adding lead to the surface water environmental assessment, with which the Navy agreed; however, the Final RFI Report does not include lead.
30. Response to EPA Comment No. 67
The response states that additional sampling will be conducted at a later date. At what point in the future is this expected to be done?

31. EPA Comment No. 70 on the Draft RFI Report, Paragraphs 3, Page 7-1:
The EPA comment requested that the location of the water treatment plant be added to Figure 7-1. While the Navy agreed with this comment, the Final RFI Report does not show the water treatment plant on Figure 7-1.
32. EPA Comment No. 73 on the Draft RFI Report, Figure 7-2, Page 7-6:
The EPA comment suggested additional monitoring wells on the south and southeast downgradient sides of Unit 6. The Navy responded that additional wells may be warranted based on 1993 sampling results, but no additional wells are planned at this time. The Final RFI Report does not provide for any additional wells at Unit 6.
33. Response to EPA Comment No. 75 on the Draft Final RFI Report, Page 7-10:
EPA's Specific Comment No. 75 states the chloroform detected in surface water sample 7SW01 may not be a laboratory contaminant since it was detected during two different sampling periods. The USMC states that "once the groundwater/surface water interaction is defined, an explanation for the presence of chloroform may be obvious" and that "additional field work will be needed." The USMC fails to explain the groundwater/surface water interaction and does not specify the field work required.
34. Response to EPA Comment No. 80 on the Draft Final RFI Report, Page 8-13:
The justification presented in the response for not including an ecological risk assessment for Unit 12 should be incorporated into the Final RFI report.
35. EPA Comment No. 81 on the Draft RFI Report, Paragraph 1, Page 9-1:
The EPA comment requested that the location of the Naval Aviation Depot (NADEP) with respect to Unit 15 and the drainage ditch be clarified and that an explanation be provided for how NADEP wastes reached the ditch. The Navy response stated that the ditch has been previously misidentified and is in a different location than originally thought. The Navy response further stated that Unit 15 should be investigated in conjunction with Unit 16. The Final RFI Report restates this position and recommends no further action for Schoolhouse Branch, presenting a confusing picture of the makeup of Unit 15. This is a major reorientation of the study of this unit from the Draft RFI Report. The rationale provided for the no further action recommendation for Schoolhouse Branch is insufficient, particularly in light of the confusing presentation of the supposed new location of the drainage ditch. The rationale for studying Unit 15 in conjunction with Unit 16 is inadequate and does not sufficiently explain why, if the study of Unit 15 is to be

reoriented, the reorientation should not include it with the study of the plume at Building 133. The Final RFI Report also fails to adequately address connections between the supposed ditch location and Schoolhouse Branch.

36. EPA Comment No. 84 on the Draft RFI Report, Figure 9-1:
The EPA comment raised questions concerning the areas drained by a particular ditch. The Navy response stated that drainage maps would be included in the Final RFI Report; however, the Final RFI Report does not contain drainage maps.
37. EPA Comment No. 89 on the Draft RFI Report, Section 9-6, Page 9-16 (Now 9-21):
The EPA comment suggested actions related to ecological risk assessments. The Navy response was that no ecological risk assessment would be conducted. The Final RFI Report states no ecological risk assessment was conducted.
38. EPA Comment Nos. 91 and 92 on the Draft RFI Report, Section 9.8.2, Page 9-23 (Now 9-28):
The EPA comments questioned the Navy's no further action decision and suggested additional sampling. The Navy referred back to its response to EPA Comment No. 81. In that response, the Navy stated that the ditch thought to be a central concern at this unit has been incorrectly identified and is located elsewhere. The Navy suggests studying this unit in conjunction with Unit 16. Specific EPA concerns regarding the former drum storage area were not addressed. The Final RFI Report also recommends no further investigation at Schoolhouse Branch.
39. Response to EPA Comment No. 94 on the Draft Final RFI Report, Page 10-2:
EPA's Specific Comment No. 94 states that soil samples should be collected from an area that is most likely to be impacted by surface water runoff from the site. EPA also stated that surface water and sediment samples should also be collected due to the proximity of Hancock Creek, with full scan TCL/TAL analysis to be conducted on at least 30% of the samples from all media. The USMC partially complied by stating that additional surface water and sediment sampling will be conducted, but, soil sampling is not addressed.
40. Response to EPA Comment No. 97 on the Draft Final RFI Report, Page 10-5:
The USMC's response complied with all of EPA's concerns except for surface soil. Additional surface soil sampling was not addressed.
41. Response to EPA Comment No. 101 on the Draft Final RFI Report, Page 11-1, Section 11.1:
EPA's Specific Comment No. 101 requests a discussion of the liquid sludge applied to Unit 21 in late 1987, and that the area where it was applied be indicated on the figure. The response indicates that the area where the sludge was applied

- will be identified on a figure, however there is no discussion of the liquid sludge.
42. Response to EPA Comment No. 104 on the Draft Final RFI Report, Page 11-7, Section 11.8.2:
EPA's Specific Comment No. 104 asks for groundwater flow direction, location of the ditch mentioned in Section 11.1, and that surface water and sediment should be sampled in this ditch. The response does not adequately address ground water flow.
 43. EPA Comment No. 106 on the Draft RFI Report, Figure 12-1, Page 12-2:
The EPA comment requested that the location of RFI Unit 33 be marked on the map. The Navy response was that a shaded area would be added. No shading appears in the Final RFI Report, but Building 3976 is shown in heavy dark outline.
 44. Response to EPA Comment Nos. 128, 129, 133, 134, 135
All of these statements say that no further action will be pursued at this site, even though a release has most likely occurred, Comment No. 133. Once again the Navy used its active facility clause as a shield, contradicting General Comment No. 1. It is not environmentally or strategically feasible to not investigate a possible area of contamination.
 45. EPA Comment No. 132 on the Draft RFI Report, Page 17-3, Paragraph 2:
The EPA comment stated that the List 1 and List 2 parameters do not contain enough organic analytes to fully assess the Navy's conclusion that "there is no indication of potential contamination at this unit." The response focused on providing in the Final RFI Report total organic carbon analytical data from additional background samples. The Final RFI Report contains no plans for further sampling and analysis using the target compound list or comparable list of organic constituents.
 46. EPA Comment No. 139 on the Draft RFI Report, Section 18.8, Page 18-9 (Now 18-15):
The EPA comment suggested that follow-up soil samples be analyzed for the target analyte list. The Navy response did not address this request. The Final RFI Report recommends additional sampling and analysis, but does not specify the nature of the analysis.
 47. EPA Comment Nos. 140 and 145 on the Draft RFI Report, Sections 20.1 and 20.2, Page 20-1:
The EPA comment referred to confusion in understanding the location and relationship of units 10, 21 and 45. The Navy stated that information clarifying this relationship would be placed in the Final RFI Report. The response also stated the Navy's belief that no further action is required for unit 45. Additional language has been added to the Final RFI Report at

paragraph 3 of section 20.1, but the relationship of units 10, 21 and 45 is still unclear. In addition, unit 10 is not clearly shown on the facility map, Figure 1-3. The Final RFI Report recommends no further action for "the current sludge application area," presumably portions of unit 45 other than units 10 and 21. The Final RFI Report also states that unspecified upcoming work at units 10 and 21 will "incorporate analysis appropriate to Unit 45" and will include soil sampling.

48. Response to EPA Comment No. 142 on the Draft Final RFI Report, Page 20-1, Section 20.2.2:
EPA's Specific Comment No. 142 observes that, "the sludge contained mercury, yet the parameters analyzed (List 2 metals) did not include mercury." The response states that "No further action remains the Navy's position on Unit 45." Without analytical results for mercury at this unit, a conclusion of no further action is not justifiable.
49. EPA Comment No. 142 on the Draft RFI Report, Section 20.2.2, Page 20-1 (Now 20-3):
The EPA comment stated that although section 20.1 states that the sludge contained mercury, mercury was not included on List 2 for analysis. The Navy response stated that a broader soils investigation would be carried out; however, the Final RFI Report contains no indication of soil sampling analysis for mercury.
50. EPA Comment No. 152 on the Draft RFI Report, Section 21.2.2, Page 21-1 (Now 21-4):
The EPA comment suggested collection of surface water and sediment samples from the stream adjacent to Unit 49B. The Navy response, incorporating the response to EPA Comment No. 151, was that the leachfields were regulated by NPDES Permits, and surface water and sediment samples were not required. The Final RFI Report does not provide for surface water or sediment sampling.
51. EPA Comment No. 155 on the Draft RFI Report, Section 21.3.2, Page 21-4:
The EPA comment requested clarification of the proximity of surface water bodies, particularly to Unit 49B. The Navy response stated that the information would be provided. The Final RFI Report says Hancock Creek is located 0.2 mile east of the leachfields without differentiating whether the distance is to Unit 49A or 49B.
52. Response to EPA Comment No. 160 on the Draft Final RFI Report, Section 22.0:
EPA's Specific Comment No. 160 asks for additional soil samples analyzed for TCI/TAL parameters. The response restates the previous "No Further Action" recommendation, and indicates that information as available on the soil remediation at the PCB Transformer Spill Area will be

presented in the Final RFI report. As a result of the EPA meeting held on March 13, 1993, the response should also state that if such documentation is insufficient, confirmation sampling and analysis must be conducted to verify whether the soil remediation was complete.