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U.S. Environmental Protection Agency
Region IV
Attn: Mr. Jay Bassett, Superfund Section
61 Forsyth Street SW
Atlanta, Georgia 30303-3104

Re: Draft Responses to Comments on Draft (Rev. 0)
Site 83 SAR Marine Corps Air Station, Cherry Point,
North Carolina

Dear Mr. Bassett:

Enclosed please find the draft response to comment letter for the subject report for your review. An electronic copy will be forwarded to you via E-mail and posted on the web page for review.

Areas of disagreement primarily involve data presentation and reporting issues. I recommend that comments associated with these types of issues be addressed at the upcoming partnering meeting and be incorporated into the upcoming SSP for OU1.

If you have any questions, please contact me at (757) 322-4811.

Sincerely,

L. S. LAUGHMILLER
Remedial Project Manager
Installation Restoration Section (South)
Environmental Programs Branch
Environmental Division
By direction of the Commander

Enclosure

Re: Draft Responses to Comments on Draft (Rev. 0)
Site 83 SAR Marine Corps Air Station, Cherry Point,
North Carolina

Copy to: (w/o encls)
TT NUS (Mr. Matt Cochran)
NC DENR (Ms. Linda Raynor, Superfund Section)
MCAS Cherry Point (Mr. Bill Powers, EAD; Ms. Rachel Johnson, EAD)

Blind copy to:
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DRAFT RESPONSES TO COMMENTS
SEPTEMBER 10, 1998
SITE 83 - DRAFT (REV. 0) SWMU ASSESSMENT REPORT (March 1998)
MCAS CHERRY POINT, NORTH CAROLINA

COMMENTS FROM JAY BASSETT, USEPA REGION IV - May 26, 1998

Note: The following comments were numbered by the response to comments author.

1. **I was disappointed. Report was not well written and not consistent with data presentation and reporting methodologies put in place. From my perspective, minimal effort was put into data evaluation and development of recommendations and conclusions.**

Response:

Agree. The contractor is not aware of any formal data presentation and reporting methodologies put in place for SARs other than the format prescribed in the RCRA Permit. Since this work was more involved that in a typical SAR, with a significant amount of data and conclusions, the information should have been presented differently. The Navy and Air Station's comments on the pre-draft were very hurried in order to meet the regulatory date for submittal of the document. The SAR was written to comply with the RCRA permit requirements for a newly identified SWMU used for the previously submitted SARs for MCAS Cherry Point. According to the RCRA permit (Condition VI.C.3), the SAR shall provide the following information:

- Location of unit on a topographic scale of appropriate scale such as required under 40 CFR 270.14(b)(19) as adopted in 15A NCAC 13A .0013.
- Designation of type and function of unit.
- General dimensions, capacities, and structural description of unit (supply any available plans/drawings).
- Dates that the unit was operated.
- Specification of all wastes that have been managed at/in the unit to the extent available. Include any available data on 40 CFR 261 as adopted in 15A NCAC 13A .0006, Appendix VIII constituents contained in the wastes.
- All available information pertaining to any release of hazardous waste or hazardous constituents from such unit (to include groundwater data, soil analysis, air, and/or surface water data).

The SAR for Site 83 included all of the above information and, therefore, met the specified regulatory requirements. The document also met the requirements in the approved DPD.

There were many exceedances of screening levels that would trigger the need for additional work. During the scoping of this project, it was assumed by the Partnering Team that additional work would most likely be needed as part of the overall investigation of OU1. Therefore, It is recommended that no changes be made to the data evaluation, recommendations, or conclusions in this SAR since the intent of the RCRA permit requirements have been met with this document. Detailed specific comments that can be addressed with minor modification of the Site 83 SAR will be performed to clarify the data presentation as discussed in the remainder of this letter.

However, the data collected during this field effort will be evaluated further in support of the upcoming Sample Strategy Plan for OU1 that is being performed in support of the IR program.

2. **Where are the target concentrations maps for sediment, surface soils, and subsurface soils? I was expecting these data to be provided in this format as a normal practice. Please provide.**

Response:

Agree with qualification. The specific type(s) of tag maps and information to be presented need to be discussed on a site by site basis for the following reasons. The maps could show all positive detections and/or those detections that exceed a criteria. There may be one or more exceedances of human health screening levels, ecological screening levels, and regulatory standards/guidance for any individual analyte. This could require multiple maps for each medium and/or type of screening level to avoid confusion, because of the large number of screening criteria presented in the Decision Process Document (DPD). For some sites, this may require large (24 x 36) drawings to be legible and to avoid maps where there are so many tags that they mask other information on the map. Therefore, this report will be revised to include several maps formatted to present the data so that the reader will be able to evaluate the conclusions made in the report.

3. **Figure 2-3 was a poor reproduction and I could not make out features. Please provide clear figure.**

Response:

Agree with qualification. It is assumed that the comment refers to Figure 2-2 on page 2-3 since there is no Figure 2-3 in the SAR. A better reproduction will be provided in the final version of the report.

4. **Please add additional figure indicating surface water runoff and interface with river and wetlands as well as permanently inundated or flowing streams.**

Response:

Clarify. The map provided as Plate 1 shows topography in the site area. Overland flow directions are apparent. Plate 1 also shows the relationship between the site, nearby surface water (East Prong Slocum Creek), and wetlands near the site. As stated in Section 2.3, "Surface drainage in the vicinity of Site 83 is toward East Prong Slocum Creek."

5. **Conclusions and recommendations should have some analysis of likely fate and transport as well as possible impacts to water bodies. Also, uncertainties and potential data gaps should be identified. This will allow CSM, SSP, and RI/FS WP for OU1 to be more focused.**

Response:

Agree with qualification. As stated in the response to J. Bassett Comment No. 1, the SAR met the regulatory requirements of the RCRA permit. In addition, it was the contractor's understanding that the purpose of the SAR was to determine whether further action would be needed at the SWMU. In addition, the objective of the Navy Scope of Work for this task was to conduct sampling and analysis to answer the questions necessary to determine if any further action is needed. Also, as stated in the SSP presentation for this task, the objectives of sampling were to (1) determine if there has been a release to the environment and (2) begin the process of defining the nature and extent of contamination. The SAR met all of the stated requirements and objectives. The intention, however, is to identify uncertainties and potential data gaps in the upcoming OU1 Sample Strategy Plan and not the Site 83 SAR.

6. **Section 5.1 and Table 5-1 - Sediments and soils are two different media with different exposure pathways, receptors, and screening values. Need to divide into two tables with separate analysis and discussion. If sediment samples were soils and not wet, the issue of fate and transport should be addressed. In the text it appears that only direct exposure to surface soil was considered. This is particularly important since some samples significantly exceeded eco screening numbers. Additionally, it is interesting to note that metal concentrations from SD-1 to SD-4 decreased. Therefore, the likely source is upgradient - Site 16? This trend was not identified.**

Response:

Agree with qualification. As stated on page 5-1, second paragraph - "The soil and sediment samples were evaluated together because the sediment samples were not collected from flowing or intermittent streams. The sediment samples were collected from a catch basin and soil areas that may have received drainage from the site. Exposure to sediment, therefore, would be similar to exposure to soil." Comparisons to ecological screening values for sediment would be inappropriate since these values were developed to protect aquatic life, which is not present at the sediment sample locations. This was the same approach used in the SAR for Site 84, and no comments were received concerning this approach. This is also the same approach that was used in the RI reports for OU2 and OU3, which were accepted by all agencies involved. Therefore the sediment sample s will be remain in the current comparison tables but the term sediments will be removed and wording will be inserted to indicate that the "sediment samples" were actually surface soil that had received surface drainage. (Also, see response to L. Raynor General Comment No. 2 and Specific Comment No. 7).

Detailed fate and transport discussions were beyond the scope of this work (see responses to J. Bassett Comments No. 1 and No. 5.

Surface soil results were compared to Residential RBCs and soil ecological screening values. All soil results were compared to Industrial RBCs, NCRAF S3-G1 values (migration of soil to groundwater), and NCRAF S3-G3 values (migration of soil to surface water via groundwater). These comparisons are in accordance with the approved DPD.

Sample SD-1 through SD-4 were not collected from a common drainage area with upgradient and downgradient locations. The sample locations were biased, and samples were collected in areas likely to have received runoff from upgradient source areas at Site 83.

7. **RBC values for alpha- and gamma-chlordane were based on what? The RBC for chlordane is 490 ppb.**

Response:

Do not agree. The values were based on chlordane. The Residential and Industrial RBCs for chlordane in Appendix B.2.1 of the Decision Process Document are 1.8 mg/kg and 16 mg/kg, respectively. These were based on RBCs published in December 1997. The same concentrations are reported in the most recent update of the RBCs (April 1998).

8. **Eco screening levels are based on what. Are they soil numbers or sediment numbers? In comparison to Region IV sediment numbers, ER-L and ER-M, it would appear that impacts are possible to ecology if contaminants could have been transported to nearby wetlands and water bodies. SD-04 indicates some transport of pesticides have occurred. This was not addressed or discussed in terms of possible effects to nearby water bodies.**

Response:

Do not agree. The ecological screening values in Table 5-1 are for soil. As stated in the response to J. Bassett Comment No. 6 (and the text of the SAR), soil and sediment samples were evaluated together because the sediment samples were not true sediment that would be encountered in a stream but were from soil areas that may have received drainage from the site. Comparisons to ecological screening values for sediment, such as Region IV, ER-L, and ERM values, would be inappropriate since these values were developed to protect aquatic life, which is not present at the sediment sample locations.

The second sentence of Section 5.4 (Conclusions) states that soil contaminants are present at concentrations that have the potential to impact groundwater and/or surface water. The transport of pesticides was discussed in the third paragraph on page 5-10. This text indicates that pesticides were detected in most of the surface soil and sediment samples and were also detected in many of the sediment samples collected in drainage areas downgradient of Building 96.

9. **Industrial RBC for PCB's is 2,860 ppb not 14,000.**

Response:

Agree. Table 5-2 in the SAR will be revised to include the RBCs in the most recent EPA Region III RBC table. The Industrial RBC for all PCBs, except Aroclor 1016 which was not detected, is 2,900 µg/kg. It should be noted that the value used in the SAR was from the DPD, which will also be revised in the future.

10. **Mercury exceeded Air Station background values but was not brought out in the report.**

Response:

Agree with qualification. Other metals also exceeded Air Station background concentrations. EPA comments on the SAR for Site 84 indicated that the Partnering Team has not yet agreed to a background strategy and that comparisons to background should be deleted or modified. In the Site 84 SAR, background was not used to determine the presence of contamination, but was used to identify instances where a sample result exceeded a screening level, but not background. This is also consistent with the approach used in the Site 83 SAR. A strategy will need to be developed by the Partnering Team to determine whether comparisons to background will be made in future documents. If background concentrations cannot be used to place an exceedance of a

screening level in perspective, it would be inconsistent to use background concentrations to define the nature and extent of contamination. Also see response to L. Raynor Specific Comment No. 7 concerning comparisons to background levels.

11. **PCBs exceeded Residential RBC at SB01. This should have been brought out and discussed.**

Response:

Agree with qualification. The soil borings inside Building 96 were collected from an interval of 0- to 1-foot, but were collected from beneath the floor and were assumed to be subsurface soil samples.

12. **Since this analysis is screening, it is inappropriate to screen to Industrial RBCs. The exposure pathways and receptors for current and future scenarios will be incorporated into the OU1 BRA.**

Response:

Do not agree. The screening that was conducted was in accordance with the approved DPD. The residential scenario involves exposure to the upper 1 foot of soil. It is not normal practice to screen subsurface soil results against Residential RBCs. Screening against Industrial RBCs is needed to evaluate exposure to all (surface and subsurface) soil.

13. **The statement that the site would not pose a threat to human health because the samples were collected from beneath the floor is inaccurate. This analysis is a screening effort where any exceedances above Residential RBCs should be evaluated and considered as a COPC. This is an unsupported statement unless a BRA considering a worker scenario indicates that current and potential exposures show no unacceptable risk.**

Response:

Agree with qualification. The first sentence under "All Soil and Sediment" on page 5-10 qualifies this statement by acknowledging that the exposure pathway would be incomplete because of the floor. However, after the draft SAR was submitted two additional surface soil samples were collected at Site 83. At one of these locations (83-SB-11), the concentration of benzo(a)pyrene (890 µg/kg) exceeded the Industrial RBC (780 µg/kg). The text on page 5-10 will be revised as follows - "Concentrations of five PAHs detected in soil exceeded industrial RBCs in Table 5-2. All but one of these exceedances was from a sample collected from beneath the concrete floor. The exposure pathway would not be complete as long as there were no intrusive activities beneath the floor." Similar revisions will be made to the text in Section 5.2 (page 5-7).

14. **My conclusions are that (1) possible effects from PAHs, pesticides, and inorganics to the nearby water bodies will need to be addressed during the OU1 RI/FS, (2) SB02 results indicate concentrations above residential and industrial RBCs and will need further evaluation in the OU1 RI/FS, and (3) groundwater contamination is consistent with solvents found at OU1, and there are no apparent new sources of groundwater contamination from this site.**

Response:

Agree. These conclusions are consistent with those presented in the SAR. No revisions to the SAR are required in response to this comment. It should also be noted that the reader was able to reach the same conclusions stated in the SAR without the aid of the requested additional modifications to the document. The addition of the maps should make these conclusions easier to reach. This further substantiates the recommendation to defer the additional data evaluation effort until the preparation of the OU1 Sample Strategy Plan, when the evaluation will best serve a purpose.

15. **The argument of using RBC in terms of acceptable risk range is inaccurate. It is a screening number that does not indicate cumulative and additive risk which is accomplished in the BRA. Remove all statements referencing this discussion.**

Response:

Agree with qualification. It was included to put the exceedances of the Industrial RBCs into perspective. Although the RBCs are calculated using the same equations that would be used in the BRA, they account for incidental ingestion, but not dermal contact. This language will be revised to clarify.

16. **The only conclusion I do agree with is including effort and data as part of the OU1 RI/FS. Data gaps, uncertainties, and DQOs will need to be addressed as part of the OU1 RI/FS Work Plan.**

Response:

Agree. This was the only conclusion that needed to be drawn. The question answered by a SAR is whether or not further action is required. No revisions will be made in response to this comment.

17. **Last comment - Maybe we should review data package and discuss results and recommendations in team meeting prior to submitting draft report.**

Response:

Agree. This issue needs to be discussed further with the Partnering Team. The scope, content, and intent of documents that are beyond the standard RI, FS, PRAP, or ROD documents need to be discussed. It is apparent that expectations of the SAR varied between Partnering Team members.

COMMENTS FROM LINDA RAYNOR, NCDENR SUPERFUND SECTION - July 29, 1998

General Comments

1. **The vertical extent of groundwater contamination at Site 83 needs to be determined.**

Response:

Agree. The SAR concluded (Section 5.4) that additional investigation of Site 83, which is located within OU1, will be conducted as part of the upcoming comprehensive evaluation and investigation of OU1. This investigation will be scoped with Partnering Team input. No revisions are required in response to this comment.

2. **What is the rationale for not investigating the contamination of the building materials from Building 96, when previous sampling results indicated contamination of this building? What are the plans for Building 96? Is this building still vacant? Is the building slated for demolition? If so, when? How will contaminated materials of Building 96 be handled and by which program at the Air Station?**

Response:

The objective of the SAR investigation was to determine whether there had been a release to the environment from activities at or around the building. The ~~scoping~~ of the investigation was made with Partnering Team input and concurrence. Building 96 is currently vacant and locked. The Air Station has not made a decision on future uses of this building. No revisions are required in response to this comment.

3. **Need to provide separate tables presenting results and screening criteria for <u>each</u> media. Sediment results are difficult to evaluate when combined with soil results. Also, need to elaborate somewhat on each of the sediment sampling locations; were these samples collected below surface water (perennial vs. intermittent streams) or were they dry samples collected from runoff ditches?**

Response:

The following was presented in the third paragraph of page 5-1: "The soil and sediment samples are evaluated together because the sediment samples were not collected from flowing or intermittent streams. The sediment samples were collected from a catch basin and soil areas that may have received drainage from the site. Exposure to sediment, therefore, would be similar to exposure to soil." However, sediment results will be removed from Tables 5-1 and 5-2 and will be presented in a separate table.

4. **It appears from the FMD Spill data that additional remediation of the soils located downgradient of the oil/water separator and spillway will be required, as well as groundwater contamination in the area. Also, surface water and sediment samples need to be collected downgradient of the spillway area and downgradient of Site 83 to determine potential impact to surface water body due to run-off from this site and discharge of contaminated groundwater.**

Response:

Agree. The first paragraph of Section 5.4 concludes that additional investigation will be conducted as part of the upcoming comprehensive evaluation and investigation of OU1 and that soil contaminants are present at concentrations that have the potential to impact groundwater and/or surface water. This investigation will be scoped with Partnering Team input. Following the RI for OU1, remedial alternatives will be evaluated in the FS.

Specific Comments

1. Figure 2-2 - **Need to label the structures(?) located near SD-02. Also, why was the sediment sampling location for SD-04 moved from the proposed location near the 6-8" pipe? This discharge area may still need to be sampled.**

Response:

Agree. The structure indicated near SD-02 was a former asphalt plant that has been removed. The outline of this structure will be removed from Figure 2-2.

Sample SD-04 was collected immediately downgradient of this pipe, and the sample location was surveyed. The location of the pipe was not surveyed but was estimated from an initial site visit and plotted on a base map. Therefore, the location of the pipe on the figure is not correct. Figure 2-2 will be revised to show the correct location of this pipe.

2. Page 2-4, **1st sentence - "Building 97 is also used for storage." Need to provide information on what is stored here. Are pesticides stored at Building 97?**

Response:

Building 97 is used for storage of materials other than pesticides. ***Need input from Air Station.***

3. Page 3-2, **1st para. - Provide information on where the new pesticide storage building was constructed and reference by SWMU number.**

June 23, 1987 should be June 23, 1997.

Need to provide information on the structure of Buildings 96 and 3310. Does Building 3310 have a concrete floor? Do floor drains exist in both buildings?

Response:

Item 1: Agree. The following will be added following the second sentence of Section 3.2 - "The new pesticide shop is located in Buildings 3939 and 3940 approximately 450 feet west of Building 96. This area is designated as SWMU S-12 (see Plate 1)."

Item 2: Agree. The text will be revised in accordance with the comment.

Item 3: Agree. The following will be added to Section 3.2 after the sentence added in response to Item 1 - "Building 96 is constructed on a concrete slab. The floor is concrete, the walls are dry wall, and the roof bracing is wood." The description of Building 3310 in Section 3.2 will be revised as follows - "Pesticides were reportedly stored in Building 3310, which is a storage shed located approximately 100 feet west of Building 96. The storage shed has a concrete floor, is covered with a roof, and has walls on three sides." There are no floor drains in Building 3310.

4. Page 4-3, 3rd para. - **Reference to figure is incorrect.**

Response:

Agree. The text will be revised as follows - "The soil sample locations at Site 83 are shown on Figure 2-2."

5. Page 4-4 - **Table - Please clarify that the static water level measurements are measured from the top of the casing. Note: need to add static water level information to well construction records in Appendix B.**

Response:

Agree. The last sentence of Section 4.6 will be revised as follows - "Water level measurements taken from the top of the well casing and converted to groundwater elevations in feet above mean sea level (amsl) are as follows:" Static water levels will be added to the well construction records.

6. Page 5-1, 4th para. - **Need to use 1998 RBC data and provide correct reference. All soils (surface and subsurface), as well as dry sediment data, need to be compared to soil-to-groundwater numbers (S-3/G-1). Need to include discussion on this screening. Also, explain the generation of the "background average"; what data and medium (soil only?) was used to obtain these numbers.**

Response:

Agree to first item; however, please note that the draft SAR was submitted in March 1998, and the 1998 RBC data were not available until April 1998. The RBCs and evaluation of data will be revised as appropriate.

All soil and sediment data (frequency of detection and concentration ranges) have already been compared to S3-G1concentrations in Table 5-2. A discussion of this screening has already been provided in Section 5.2. No revisions are required in response to this comment.

The background concentrations for soil are the same as presented in the Decision Process Document and are the same as used in the RI reports for OU2 and OU3. Because these background concentrations have not been adopted and approved by the Partnering Team, comparisons to background will be deleted from the SAR (see J. Bassett Comment No. 10).

7. Tables 5-1 and 5-2 - **Provide tables for each media, presenting sampling results and screening criteria.**

Soils (surface and subsurface) should be compared to background levels, residential and industrial RBCs, and soil-to-groundwater (S-3/G-1) values. If an S-3/G-1 value is not available from the NC RAF document, one must be calculated using the formula provided in the document.

Sediments should be compared to residential RBC values and ecological screening criteria, at a minimum, BTAG numbers and Supplemental Guidance to RAGS (1995) screening levels.

Need to denote for each parameter whether it is a "c", carcinogenic, or "n", non-carcinogenic, and specify in the footnotes that the values presented in the table for "n" parameters are presented as 0.1 times the value in the Region III RBC table. Please use the most recent RBC tables; a few discrepancies were denoted in this table regarding RBC values obtained from a 4/98 table.

Response:

Item 1: See response to L. Raynor General Comment No. 3.

Item 2: Agree with qualification. All comparisons to screening levels in the SAR are in conformance with the Decision Process Document. Surface soil (0 to 1 foot) results are compared to residential RBCs and ecological screening values. All soil (from all depth) results are compared to industrial RBCs and North Carolina Risk Analysis Framework S3-G1 and S3-G3 screening levels. Screening against background can no longer be conducted because the Partnering Team has not yet agreed to a background strategy. S3-G1 concentrations will be calculated for chemicals where input parameters (e.g., partition coefficient, acceptable groundwater concentration, Henry's Law constant) are available.

Item 3: Agree with qualification. See response to L. Raynor General Comment No. 3.

Item 4: Agree; however, please not that the draft SAR was submitted in March 1998, and the 1998 RBC data were not available until April 1998. The tables in Section 5 will be revised in accordance with the comment.

8. Table 5-3 - **Use most recent (1998) Region III tap water values, and denote whether the parameters are non-carcinogens; footnote that non-carcinogen value presented in the table is 0.1 times the tap water value presented in Region III's RBC tables. A few discrepancies were noted in this table.**

Response:

Agree. See response to L. Raynor Specific Comment 7.

9. Page 5-7, **Section 5.2 - Need to discuss the potential source(s) of PAHs at this site and consider why the highest levels appear to be located beneath the building.**

Response:

Do not agree. Identification of such sources would be speculative. Section 3.3 states that no areas of visible contamination were noted outside of the building. Vehicles are parked in the site area, and the PAHs may be a results of fuel/oil leakage; however, this cannot be verified.

According to the soil sample log sheets in Appendix B, a fuel odor was observed at surface soil location SS-01, which is outside the building. The sample log sheet for location SB-01 (inside the building) also indicated that there was a fuel odor. The sample log sheet for location SB-02, which had some of the highest concentrations of PAHs, indicated that a shredded material that looked like tar paper was encountered; however, it is not known if this is the source.

10. Page 5-8, 1st para. - **Carbazole and 2-methylnaphthalene also exceed S-3/G-1 values, but are not mentioned.**

2nd para. - Re: nickel results - sample location 83-SS-01 is duplicated.

Response:

Item 1: Agree. A discussion of these exceedances will be added to Section 5.2, and the exceedances will be highlighted with an asterisk in Table 5-2.

Item 2: Agree. The text will be revised to indicate that nickel results exceeded S3-G3 concentrations at locations SB-02, SS-01, and SS-02.

11. Page 5-9, 3rd para. - **Re: groundwater exceedances of 2Ls - need to include 1,2,4-trichlorobenzene and cadmium. Re: exceedances of G-3 - need to include beryllium and cadmium.**

Response:

Agree. The text will be revised in conformance with the comment.

OTHER REVISIONS

1. Two additional surface soil samples were collected (83-SB-07 and 83-SB-11) on April 29, 1998. Based on a review of the approved Work Plan, there were an insufficient number of surface soil samples collected. The results of this sampling, along with comparisons to screening values, will be added to the SAR.

2. Since the submission of the draft SAR in March 1998, the Partnering Team has requested a change in the ecological screening criteria for surface soil that was presented in the Decision Process Document. The Partnering Team decided that the "Dutch" soil screening values be used instead of the ORNL values presented in the Decision Process Document. Since "Dutch" values are not available for all contaminants, the following hierarchy will be used in selecting ecological soil screening values: 1) "Dutch" values, 2) ORNL values and 3) EPA Region III BTAG values. This approach needs to be reviewed by the Partnering Team.