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MCRD PARRIS ISLAND  
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LETTER REGARDING U S EPA REGION IV COMMENTS ON THE DRAFT SITE INSPECTION  
REPORT FOR SITE 8A AND SITE 8B MCRD PARRIS ISLAND SC  
9/13/2013  
U S EPA REGION IV



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 4  
ATLANTA FEDERAL CENTER  
61 FORSYTH STREET  
ATLANTA, GEORGIA 30303-8960

September 13, 2013

**CERTIFIED MAIL**  
**RETURN RECEIPT REQUESTED**

Naval Air Station, JAX  
Navy Facilities Engineering SE  
Installation Restoration, SC IPT  
Attn: Mr. Dan Owens  
PO Box 30  
North Ajax Street, Bldg 135  
Jacksonville, FL 32212-0030

AND

Commanding General  
Marine Corps Recruit Depot  
Natural Resources & Environmental Affairs Office  
Attn: Mr. Tim Harrington  
PO Box 5028  
Parris Island, SC 29905-9001

Dear Mr. Owens and Mr. Harrington:

The U.S. Environmental Protection Agency (EPA) has completed its review of the Draft Site Inspection Report for Sites 8A and 8B, Marine Corps Recruit Depot (MCRD), Parris Island, South Carolina (March 2013). The resulting comments are attached. Please address the comments and update the document accordingly. Please feel free to call with any questions you may have. I can be reached at 404-562-9969.

Sincerely,

A handwritten signature in black ink that reads "Lila Llamas".

Lila Llamas  
Senior RPM  
Federal Facilities Branch  
Superfund Division

Attachment

cc: Meredith Amick, SCDHEC  
Peggy Churchill, TtNus



**U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)  
TECHNICAL REVIEW OF THE  
DRAFT SITE INSPECTION REPORT FOR  
SITE 8A and 8B  
MARCH 2013**

**MARINE CORPS RECRUIT DEPOT (MCRD)  
PARRIS ISLAND, SOUTH CAROLINA**

**GENERAL COMMENTS:**

1. **NOTE TO MCRD and Navy:** Please recall that this investigation proceeded at risk without EPA approval of the Site 8 Work Plan and with very limited scoping. Also please note that no calls were made to EPA regarding any changes made in the field that could have impacted the investigation. Some of the comments and concerns that follow might have been avoided given time to reach consensus on the work plan and with proper communications during field work. Please consider this in all future activities.
2. **Executive Summary:** Please update the executive summary as necessary based on the remainder of EPA comments below.
3. **Results Statements:** Since additional samples will be required at the site (see below), all summary statements throughout the report may need to be updated to reflect new/additional sample results.
4. **Section 2.3 Site Description, Section 4.1.1 IAS, Section 4.1.2 RFA, and Appendix A:** In Section 2.3 the report identifies Sites 8A and 8B as spills occurring in 1984 and 1983 respectively and near buildings 111 and 450 respectively. However, the transformer report in Appendix A only addresses Site 8A near building 111 and a different site near building 601 on a record which appears to be from May of 1983. No historical information appears to be presented for Site 8B which reportedly occurred in 1983, which could then logically possibly be on this record, but does not appear to be so. Please rectify the site descriptions and supporting historical information to ensure the proper sites are being investigated and provide historical information to support a conceptual site model for both sites. Please include whatever information was initially reviewed that generated the concerns documented in the IAS and/or RFA, to ensure these documents are not also possibly flawed. The record in Appendix A does reference Building 450 as the building to which completed transformer reports should be delivered, potentially a source of confusion in the documentation. Clarify if Building 601 should have been investigated instead of 450.
5. **Section 5.1.3 Soil Sampling:** Review of this section has raised the following questions and concerns.
  - a. The work plan calls for a screening of the site with initial borings to detect and delineate the area of fill from the previous soil removal which took place in order to ensure samples are taken beyond the extent of excavation both horizontally and vertically. It is not clear if this was done. Please Explain.
  - b. This would result in the surface soil investigation concept being to go just outside the fill area horizontally to take confirmation samples to determine that the extent of contamination had been addressed. However, this section, for either surface soil samples or subsurface soil samples, does not describe the search for fill material and resulting delineated area to avoid. Therefore, it is unclear if the surface soil samples taken were within the original fill area and therefore samples of the fill material rather than a confirmation in unexcavated soils. Please explain and justify acceptability of the surface soil samples taken as confirmation samples.

- c. If the fill could not be detected, explain why the sample locations provided in Figure 5-1 of the SI Report do not correspond to the sample locations in Figure 17-1 of the SI Work Plan which were to be the default locations.
- d. For ease of review, please provide a map indicating the horizontal extent of fill relative to the surface samples taken.
- e. Given this same concept of avoiding the fill area, the subsurface soil investigation concept should have been to go deeper than the fill material from within the fill area boundaries to confirm the extent of vertical migration of contaminants was addressed. There is no explanation of to what depth fill material was found to be located, below which the confirmation samples were supposed to have been taken. Therefore, it is unclear if the subsurface soil samples taken were within the fill material and therefore are confirmation of fill material concentrations rather than a confirmation in unexcavated soils. Please explain and justify acceptability of the subsurface soil samples taken as confirmation samples.
- f. Furthermore, if subsurface samples were taken from the same locations as surface soil samples, and surface soil samples were outside the fill area, then the subsurface soil samples were not taken from within the fill area and therefore are not reflective of whether the contamination had been removed at depth within the spill area. Please explain and justify acceptability of the location of subsurface soil samples.
- g. For ease of review, please provide a cross-section indicating the depth of fill material relative to the depth of subsurface soil samples taken at the location of the subsurface soil samples.

6. **Section 5.1.4 Temporary Well Installation, boring logs, well logs, etc.:** Review of these sections generated the following questions and concerns regarding the TW well at Site 8A.

- a. Please explain why different screen lengths were used at Site 8A versus Site 8B.
- b. Please explain why the screen length at Site 8A was reduced to a five foot screen, rather than a 10 foot screen as planned for in the Work Plan.
- c. Please clarify why the monitoring well boring was stopped at 10 feet deep, where the odor was detected, rather than advanced to a depth of at least 15 feet as anticipated in the SAP work plan and as accomplished at Site 8B.
- d. Please clarify why the TW at Site 8A is indicated on Figure 5-1 as being offset from Soil Boring 04, yet the well stick up sheet indicates the well at SB-04 and no other soil boring log sheet is included for another location. Was the well moved from the originally intended location? If so why? If so, also please provide the boring log for the actual location.
- e. Please clarify at what point the decision to stop the boring short and to change screen lengths was made.
- f. Please clarify if the decisions regarding screen length, boring depth, and well location were made before or after the odor was detected in Soil Boring 4 at a depth of ten feet.
- g. Please clarify why the regulators were not called regarding this change to the SAP work plan in the field.
- h. Please clarify why the work plan did not indicate that regulatory approval should be obtained for any changes to the SAP work plan.
- i. Please clarify how a single well with a five foot screen meets the anticipated coverage as described in the SAP work plan as being "One groundwater sample will be collected from the top 10 feet of the water table at an estimated depth interval of 5 to 15 feet bgs to determine if any PCBs may have migrated into the underlying groundwater beneath the PCB spill."
- j. If only five foot screens were available, explain why two temporary wells were not used, one screened from 5 to 10 feet and the other from 10 to 15 feet to meet the work plan objectives and anticipated vertical coverage.
- k. Please clarify why, if odors were detected at 10 feet, and the PCB transformer report had mentioned the historical use of toluene and kerosene to clean transformers and spill areas, a groundwater sample was not taken and analyzed for VOCs, SVOCs, GRO, and DRO as appropriate once an odor was detected which could be related to toluene or kerosene.

- l. If the sampler was not familiar enough with the site historical documents to have noted a potential site-related contaminant, why would a sample not have been taken and analyzed at least for VOCs and SVOCs, as might be expected from a "chemical type odor" at 10 feet.
  - m. Please explain why only one well was installed and sampled, contrary to the feedback EPA had provided that said three wells should be installed in order to determine groundwater flow direction.
  - n. Please explain why, if only one well could be installed, why the well was not installed in a suspected downgradient position from the original spill area, rather than trying to target a well in the center of the original spill area which has not yet been clarified (see comments above regarding soil samples and original spill area/fill material.) Furthermore, justify why one well located as-is should be acceptable to meet the investigation objectives.
  - o. EPA expects the site to be re-sampled for groundwater and soils in this location and the samples to be analyzed for PCBs, VOCs, SVOCs, GRO, and DRO. Please submit a letter style work plan addendum to address this sampling effort.
  - p. Please note, the EPA RPM and site attorney would like to discuss the expectations and/or requirements which apply when unexpected contaminants are noted on a CERCLA site, especially during a CERCLA investigation. Please notify EPA when a convenient time is to conduct the call.
7. **Number of TW wells needed in the re-sampling event:** The team should discuss the current soil sample results and the objectives of the investigation and reach consensus on how many TWs are needed and at what locations.
8. **Step Out Soil Samples Needed:** Since analysis of a sample (PAI8A-SS05-0001) resulted in concentrations higher than other samples on site in exceedances of both residential and industrial screening levels as well as soil leachability criteria, and because this highest of results is located on the outer edge of the investigation area, the need for additional step out samples is indicated to determine if the contamination extends beyond the investigation boundary and is sufficient to warrant concern for human health. EPA is willing to discuss whether this additional sampling can take place concurrent with the re-sampling of groundwater at Site 8A via a letter style Work Plan addendum, or as part of an ESI or RI level investigation, either of which would require a work plan. EPA is willing to discuss how each different approach could be beneficial and what might be required. The report should be modified to indicate step out samples are needed.
9. **PCB Congener Analysis of Groundwater:** Decision rules were never finalized with respect to the need for PCB Congener analysis, including both soil and groundwater. EPA is considering whether PCB congener analysis would be appropriate for groundwater at Site 8A. Currently three soil samples exceed screening levels protective of groundwater, but no detections of PCBs were found in the groundwater. However, the groundwater sample has been called into question, a new sample is being required, and additional soil samples have been requested. EPA will wait to see the results of the re-sampling of groundwater and what is decided with respect to when to take these additional soil sample(s) and whether or not their results indicate groundwater is more at risk than currently indicated before deciding.

Furthermore, Congener analysis in the soil sample aliquot of the highest hit sample indicated levels that were three times the level of the original sample aliquot and half again as much for the duplicate sample. However, the duplicate was not analyzed for PCB Congeners. If an aliquot of the duplicate was preserved in such a way as to allow for PCB Congener analysis it may be prudent to conduct the analysis in order to help clarify the degree of weathering experienced at the site, and thereby help determine if groundwater requires PCB Congener Analysis or not once the new results come in for soils and groundwater. Please clarify if this can/will be done.

10. **Additional Investigation Needed:** Answers to the questions raised above will determine the extent to which additional sampling will be required by EPA. It is hoped that most of these issues can be satisfactorily addressed and additional samples will be limited to those already identified in these comments. However, if clarifications and explanations requested are not provided and/or do not justify acceptance of the current samples as being sufficient to meet work plan objectives, the Navy and MCRD can expect samples in addition to those currently specified in these comments will be called for in the feedback to Response to Comments and/or in a conditional approval letter of the report in order to move on to another phase of investigation.
11. **Section 6.2 Summary Site 8A:** Please update the summary information to include duplicate and total PCB Congener results for those samples analyzed as such.
12. **Section 6.3 Site 8A:** The conclusions made in this paragraph are incongruous with the Total PCB Congener analysis and the duplicate sample results for Aroclors at location SB-04. Please modify this paragraph to resolve the discrepancies.
13. **Section 7 Conclusions and Recommendations Site 8A:** The following applies to this section.
  - a. Please update the information here as was requested for Section 6.2 above.
  - b. Final conclusions and recommendations will need to wait for the re-sampling of groundwater and for the additional soil sample results if to be addressed as an addendum herein.
  - c. Reference to the TSCA PCB Spill Cleanup levels is not appropriate at this time. EPA is willing to discuss the potential for baseline risk related analysis assuming maximum concentrations and extent of contamination, as well as results compared to risk ranges before making a determination as to whether additional investigation is warranted or not after the additional samples required for this site have been taken and results reported.
  - d. EPA cannot approve the no further action for Site 8A at this time. See all comments above.
14. **Data Quality and Reporting:** Some concerns were noted regarding the data quality and reporting which will be presented to the team under separate cover for consideration. At this time the issues are not considered sufficient to reject the current data as reported, however these issues should be considered in future analytical efforts where they could result in more serious concerns.