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MCRD PARRIS ISLAND
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LETTER REGARDING U S EPA REGION IV COMMENTS ON DRAFT REMEDIAL
INVESTIGATION WORK PLAN ADDENDUM FOR SITE 27 EQUIPMENT PARADE DECK
MCRD PARRIS ISLAND SC
5/9/2008
U S EPA REGION IV



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, Georgia 30303-8960**

May 9th, 2008

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

4SD-FFB

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

And

Commanding General
Marine Corps Recruit Depot
Natural Resources & Environmental Affairs
Attn: Heber Pittman
PO Box 5028
Parris Island, SC 29905-9001

SUBJ: EPA Review of the Draft Site 27 RI WP Addendum - Phase 2 (March 14 2008)

Dear Sirs:

EPA has reviewed the Draft Site 27 RI WP Addendum for Phase 2 and offer the following comments:

GENERAL COMMENTS:

1. No text was provided with the submitted pages. **This amendment cannot be approved without the text discussed and agreed to.** Be sure to address the history that lead to Phase 2 data needs, describe the general purpose and rationale for the additional samples, etc. Be sure to include change page insertion instructions.

2. In the text, also include additional facility history information for the buildings and concrete pads in question near the source areas.
3. No Phase 1 soil sample results were included with the provided change pages. Please include that data on a site map, and state whether soils have been delineated on and around the parking lot, or whether additional soil samples will be needed in these areas. If so, provide the proposed locations and sampling rationale. Be sure to include the proposed locations on the revised maps. Please recognize that additional comments may be submitted based on this new data and information.
4. It appears to a degree some proposed well locations are placed at distances much removed from COC contour lines / plume edges. At this phase of the investigation locations should be selected foremost for the purpose of determining the nature and extent of contamination. Currently, the distances of some of the proposed wells to the inferred COC plume boundaries indicate there is a level of uncertainty in where the actual plume boundaries are located. If the Navy is fearful of incurring additional costs attempting to delineate the extent of contamination, EPA suggests an additional round of temporary well data be collected to more tightly constrain the plume boundaries. The new temporary well data would be used to target the permanent well placement and installation. See specific comments regarding proposed well placement and data gaps.
5. As discussed, an additional geotechnical investigation may or may not be necessary at some point in the CERCLA process in order to determine the existence, or lack thereof, of a confining layer. At this point, it will be acceptable to include the Public Works Geotechnical results in the RI Report, to make what conclusions you can about the area's geology/hydrogeology, and to propose additional geotechnical investigation if warranted. Such data can be gathered in support of the FS stage. However, if the Navy feels there is a cost benefit to doing such additional investigation while crews are in the field during Phase 2, then details of that investigation and its' intended purpose should be included in the revised Phase 2 WP and subject to review and comment/approval.
6. If TDS and salinity data is gathered, it should be gathered at all levels of the investigation (S, I and D) and at a variety of locations.
7. The Conceptual Site Model needs to be further refined to include all potential pathways, receptors, etc. After the RI data has been gathered, the results should allow the Conceptual Model to be further refined, to explain how and where the contaminants were released, the nature, extent and magnitude of those contaminants, and which pathways are confirmed potential pathways.
8. Water level measurements are pertinent data points in this investigation due to vapor intrusion concerns. Since the site is reportedly tidally influenced to some degree, water level measurements should be taken at high tide, and as close to Spring High Tide as possible.

9. Since floating fuels were a concern at one point in this investigation, please provide the well construction data for wells in the areas of high VOC concentrations in surficial wells. Compare screen placement with low and high tide water level measurements.
10. Assuming well screens are properly placed to allow for floating fuel detections, during Phase 2 sampling, be sure to use an oil/water interface probe or similar equipment before the wells are disturbed, to determine if floating fuels, etc. may be present. If free-phase product is detected, a static water sample should be collected and analyzed.
11. For purposes of analysis of these samples taken in Phase 2, it is assumed the same scans and methodologies as required by the Phase I RIWP will be performed.
12. A schedule for this sampling round should be submitted in advance of field start, with sufficient time for EPA oversight to be planned (at least 2 weeks advance notice.)

SPECIFIC COMMENTS:

13. Add additional soil samples and/or disperse proposed samples to include soil investigations in the area of the following locations: For pesticides - in addition to those proposed address TW46S and TW30S. For VOCs - in addition to those proposed address FDP12, FDP04, TW26S, FDP02, FDP17, FDP22, and FDP05. Please explain if all soil samples will be analyzed for both pesticides and VOCs, or if each sample will be a single analysis (the purpose of many could cross over, but maybe not all.)
14. Please include the new proposed soils samples on the map.
15. Please provide additional detail regarding soil sample depths, intervals, etc. Describe soil sample depth in relation to water table levels.
16. Please clarify the map legend with respect to health concern indicators (H).
17. The locations of many of the shallow and intermediate permanent monitoring wells proposed for installation during the next phase of the remedial investigation (RI) are situated some distance from the current interpretation of the volatile organic compound (VOC) and pesticide plume boundaries. For example, the proposed location of intermediate well PAI-27-MW61I is approximately 400 feet downgradient of the VOC and pesticide plume boundaries, and wells PAI-27-MW51S and PAI-27-MW52I are located approximately 200 feet upgradient from the VOC and pesticide plume boundary. Additionally, wells PAI-27-MW55S and PAI-27-MW56I are located 200 feet from the pesticide plume boundary and 500 feet from the VOC plume boundary. As such, uncertainty in the representativeness and overall quality of the well data comes into question when the well locations are some distance from the plume boundaries. Revise the MCRD Parris Island Site 27 Remedial Investigation Phase 2 Work Plan dated March 2008 (Phase 2 Work Plan) to provide additional justification and rationale for the

distance of the proposed permanent monitoring well locations relative to the current interpretation of the VOC and pesticide plume boundaries.

18. The downgradient extent of pesticide concentrations in groundwater northwest of shallow monitoring well PI027MW21 is not addressed by the currently proposed network of monitoring wells. The Remedial Investigation Work Plan (RI Work Plan) prepared for Site 27 dated September 2007 (TtNUS, September 2007) indicates if the concentrations at the plume boundary are less than the action levels, then the horizontal extent of groundwater contamination will be considered to have been determined (Page 2-13). According to the figures presented in the Phase 2 Work Plan, a data gap exists in the horizontal extent of pesticide concentrations exceeding human health screening criteria in the shallow aquifer zone downgradient of PI027MW21. Revise the Phase 2 Work Plan to describe how the horizontal extent of pesticide contamination in the shallow aquifer zone at the leading edge of the plume will be determined since no new wells downgradient of PI027MW21 have been proposed.
19. The proposed sampling at Site 27 (Equipment Parade Deck Satellite Accumulation Area) as presented in Table 3 of the Phase 2 Work Plan does not address the data gap that exists in the horizontal extent of pesticide concentrations exceeding human health screening criteria in shallow groundwater downgradient of permanent monitoring well PAI-27-MW-16. The downgradient extent of pesticide exceedances in shallow groundwater in this area is constrained horizontally by results from temporary well PAI-27-TW-39S. However, permanent monitoring well results will be needed to verify the horizontal extent of pesticide contamination in the shallow groundwater as determined by the temporary well data. Shallow monitoring well PAI-27-MW58S is proposed to constrain the plume boundary in this area. However, the proposed well location is greater than 300 feet downgradient of PAI-27-MW-16 and greater than 150 feet from the estimated pesticide plume boundary. As such, it is recommended that a shallow permanent groundwater monitoring well be installed to constrain the horizontal extent of pesticide contamination exceeding human health screening criteria downgradient of PAI-27-MW-16 in the vicinity of Building 852.
20. Exceedances of the action levels for both VOCs and pesticides were measured in the deep aquifer zone in well PI055MW08D and pesticides only in well PI055MW13D. Currently, the vertical extent of VOC and pesticide contamination exceeding the action levels presented in the RI Work Plan (TtNUS, September 2007) has not been determined. Although sampling of the deep wells is proposed for the next phase of the investigation, the vertical extent of contamination will still not be delineated if the sample results exceed the action levels. As a result, MCRD should provide for additional investigation, as necessary, to determine the full vertical extent of contamination in the deep aquifer zone. Revise the Phase 2 Work Plan to address this issue.
21. The greater than 1000 micrograms per liter ($\mu\text{g/L}$) chlorobenzene isoconcentration contour depicted in Figure 2, VOC Concentrations ($\mu\text{g/L}$) in Groundwater Sites 27/55, is located approximately 25 feet from Building 405. Currently, the upgradient extent of the chlorobenzene contamination immediately north of Building 405 is not known. The

utilization of wells PAI-27-MW51S and PAI-27-MW52I has been proposed to determine the upgradient extent of contamination. However, the proposed well locations are approximately 200 feet upgradient of the interpreted VOC plume boundary. In order to more closely constrain the VOC plume near Building 405 and to preliminarily assess the vapor intrusion potential, it is recommended wells PAI-27-MW51S and PAI-27-MW52I be located on the northern rather than southern side of Building 405. Revise the Phase 2 Work Plan to address this issue.

EPA appreciates the coordination efforts put forth by the Base and Navy in developing a remedial investigation work plan addendum. If there are any questions, please do not hesitate to contact me at (404) 562-9969 about these comments.

Sincerely,

A handwritten signature in cursive script that reads "Lila Llamas".

Lila Llamas
Senior RPM

cc: Meredith Amick, SCDHEC
Sommer Barker, SCDHEC
Mark Sladic, TtNUS