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LETTER REGARDING FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
REVIEW OF RESPONSE TO COMMENTS ON DRAFT SAMPLING AND ANALYSIS PLAN
WETLAND SEDIMENT SAMPLING OPERABLE UNIT 16 SITE 41 NAS PENSACOLA FL
09/05/2013
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

BOB MARTINEZ CENTER
2600 BLAIRSTONE ROAD
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RICK SCOTT
GOVERNOR

HERSCHEL T. VINYARD JR.
SECRETARY

September 5, 2013

Ms. Patty Marajh-Whittemore
Remedial Project Manager
ITP Gulf Coast
Naval Facilities Engineering Command Southeast
Attn: AJAX Street, Building 135N
P.O. Box 30A
Jacksonville, FL 32212-0030

RE: Response to Comments Regarding the Draft Sampling and Analysis Plan (SAP), Wetland Sediment Sampling, Operable Unit 16 – Site 41, Naval Air Station Pensacola, Pensacola, Florida.

Dear Patty:

The Department has completed its review of the Response to Comments Regarding the Draft Sampling and Analysis Plan (SAP), Wetland Sediment Sampling, Operable Unit 16 – Site 41, Naval Air Station Pensacola, dated July 24, 2013 (received July 24, 2013), prepared by Resolutions Consult, Inc. I have attached to this letter responses to the Navy's responses to previous Department comments from Ligia Mora-Applegate's and the Department's contracted risk assessors with the University of Florida. The Department finds these responses generally satisfactory as long as Department concerns regarding wetlands to be removed from Operable Unit 16, Site 41, are addressed pursuant to past comments.

If you have any concerns regarding this letter, please contact me at (850) 245-8997.

Sincerely,

David P. Grabka, P.G.
Remedial Project Manager
DoD and Brownfields Partnerships

CC: **Greg Campbell**, NAS Pensacola
Tim Woolheater, EPA Region 4
Gerry Walker, Tetra Tech, Tallahassee
Allison Harris, Ensafe, Memphis, TN



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MEMORANDUM

TO: David Grabka, PG II
DoD and Brownfields Partnerships Section, WCP

THROUGH: Brian Dougherty, Administrator
Office of District and Business Support
Division of Waste Management
9/3/2013
X
SIGNED BY: Dougherty, B

FROM: Ligia Mora-Applegate, Environmental Consultant
Office of District and Business Support
Division of Waste Management
8/30/2013
X
Ligia

SUBJECT: NAS Pensacola Site 41 Wetlands
Pensacola, Escambia County, Florida
Responses to Comments Regarding the Draft Sampling Plan for Operable Unit 16,
Site 41, 7/24/13
Site ID#: DOD_11_1852

DATE: August 30, 2013,

At your request, the University of Florida (UF) and I have reviewed the Responses to comments regarding the responses to the Draft Sampling and Analysis Plan (SAP), for the Wetland Sediment Sampling, Operable Unit 16 – Site 41, at the Naval Air Station in Pensacola. The responses were prepared by the Navy and are dated 7/24/13.

The Navy combined the Wetlands at the NAS Pensacola Facility into a single Operable Unit (OU 16), Site 41. Site 41 encompasses approximately 81 wetlands or wetland complexes, both tidal and nontidal that are within the base boundary. These wetlands are either palustrine or estuarine and drain into Bayou Grande or Pensacola Bay.

We found the latest Navy responses satisfactory, and I like to reiterate that I do not have any problem with the Navy transferring wetlands 3, 4D, 15, 16, 18 from OU 16 to OU 1 as long as they are addressed per our past comments.

It would be prudent if the methodology for calculating background (used in the 2005 RI) is updated so it will be consistent with the FDEP Guidance and possibly not miss any areas of contamination.

The University of Florida's comments are attached. I concur with them.

If you have any questions, please contact me at 245-8992.



Center for Environment & Human Toxicology

PO Box 110885
Gainesville, FL 32611-0885
352-392-2243 Tel
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August 28, 2013

Ligia Mora-Applegate
Bureau of Waste Cleanup
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Re: Responses to comments on the Draft Sampling and Analysis Plan for OU 16, Site 41, NAS Pensacola (Escambia County, DOD_11_1852)

Dear Ms. Mora-Applegate:

At your request, we have reviewed the *Revised Responses to Comments on the Responses to Technical Comments, Florida Department of Environmental Protection, provided by University of Florida, Draft Sampling and Analysis Plan (SAP), Wetland Sediment Sampling, Operable Unit 16, Site 41, Naval Air Station Pensacola, Pensacola*. This document is dated July 24, 2013 and is a response to our comments provided to you in a letter dated March 27, 2013.

To enable you to follow the discussion, we have reproduced the comments from the March 27, 2013 letter and the Navy response below. Only comments that received responses from the Navy were included. After each response, we have made a follow-up comment.

Comment 1: In the final Remedial Investigation (RI; August 2005), iron was listed as a contaminant of potential concern (COPC) in surface water and sediment for Wetland 4D. During a site visit on 20 September 2012, it was noted that iron continues to be a concern for this wetland. We recommend that proposed additional sampling in Wetland 40 include iron to better determine the extent of iron contamination in sediment and surface water.

Navy Response 1: The Navy agrees that iron floc is observed in Wetland 3; however, Wetland 3 is being addressed under OU1 and Wetland 3 is not part of this investigation. Iron was not identified at Wetland 4D for further sampling in sediment in the SAP. This finding was based on the COC refinement presented as Appendix A in the Feasibility Study Report. A site-specific no observed effects concentration (NOEC) for freshwater wetlands of 246,000 milligrams per kilogram (mg/kg) was calculated for iron based on site-specific results in Wetland 3 (041M0302) at a location with no lethal or sublethal toxicity. The NOEC was discussed in the March 2012 meeting. Concentrations of iron reported in sediment are less than the NOECs, and therefore, iron was eliminated for further consideration. As discussed during partnering meetings, in the memorandum and in the response above, the scope of the memorandum was limited to sediment sampling,

so surface water and other media were not discussed in the memorandum and are beyond the scope of this follow-up work for the Feasibility Study, unless information indicates that partnering team decisions regarding those media should be reconsidered.

If performed, toxicity testing will address the mixture of contaminants in the samples and would not exclude iron. Consequently, separately analyzing samples for iron was not proposed.

As discussed during partnering meetings and in the memorandum, the scope of the memorandum was limited to sediment sampling, so surface water and other media were not discussed in the memorandum and are beyond the scope of this follow-up work for the Feasibility Study.

Follow-up Comment 1: The intent of our comment was to encourage further evaluation of iron in Wetland 4D based upon observations during the September 2012 site visit, as well as the discussions held during the March 2012 meeting. Observations of iron floc in Wetland 4D appear to be inconsistent with a conclusion of no toxicity, at least in some areas. This could perhaps be addressed by toxicity testing if properly conducted and inclusive of samples from areas with the highest iron/iron floc.

Second Navy Response 1: Because the Navy is currently preparing a Focused Feasibility Study Report and subsequently a Record of Decision Amendment for OU1, The Navy proposes to transfer Wetlands 1B, 3, 4D, 15, and 18 A/B from OU16 to OU1. All investigations associated with these wetlands will now be performed as part of OU1. The collection of surface water samples and possible toxicity testing in Wetlands 3 and 4D will be addressed in the OU1 UFP-SAP.

Follow-up Comment 1: The response is satisfactory.

Comment 2: During a Partnering Meeting on 27-28 March 2012, field verification was proposed for Wetland 6 to determine if additional sampling for DDT is necessary (Appendix A). A site visit on 20 September 2012 verified fish and piscivorous birds are present in this wetland. Further sampling to delineate the extent of contamination appears necessary to determine whether DDT is of concern to higher trophic levels species foraging in Wetland 6.

Navy Response 2: As stated in the Final Remediation Investigation Report, November 2007, Wetland 6 was eliminated from further sampling during the Phase III investigation because it is a channelized ditch within the NAS Pensacola storm water drainage system which receives continual impacts from storm water and is actively maintained by base maintenance personnel. As shown on Figure 11-1 from the Remedial Investigation Report, storm water from across the southeastern portion of NAS Pensacola discharges to Wetland 6.

In the May 2012 Partnering meeting, a participant was concerned with the source of DDT. Total DDT was detected above its basewide concentration of 110 ppb at only 2 of 12 locations. The highest location was 260 ppb at 041M060101 and the second highest was 52 ppb at 041M060301. The fate and transport analysis for Wetland 6 did not indicate that OU6 soil or groundwater was a source of the DDT in sediment. Detected DDT concentrations are not indicative of a spill and are likely from routine spraying of pesticides along the ditch. Food chain models do not indicate a risk to upper trophic level

receptors from DDT.

The concern for sampling was to identify a source and evaluate potential migration rather than ecological risk. The Navy has cleared this partially lined and channelized ditch, and clearing activities to maintain the ditch will be performed by base personnel as needed to maintain flow in the future. Consequently, the Navy disagrees with adding Wetland 6 to the SAP.

Follow-up Comment 2: Based upon field observations during the September 2012 visit, Wetland 6 certainly appears to be habitat for a number of fish species and piscivorous birds. If it is considered viable habitat for management purposes, then we maintain that better characterization of contaminants in this wetland is needed. If not, then issue is moot.

Second Navy Response 2: The Navy agrees to collect a sediment sample near the weir feature (northern portion of Wetland 6) where Wetland 6 crosses under the road. This proposed sampling area is between Wetland 5B and the Wetland 64 complex. The Navy will add two sediment samples to Wetland 7 where the wetlands are contiguous.

Follow-up Comment 2: The response is satisfactory.

Comment 3: Worksheet 11 states that twice the mean detected concentration in the reference area will be utilized as an upper-end estimate of background concentrations at the site. The upper-end of the range of background concentrations is usually defined as the lower of twice the mean or the maximum detected concentration. This methodology prevents an overestimation of the upper limit of background that could result from a few elevated reference samples.

Navy Response 3: Background was established as part of the Final RI Report for NAS Pensacola wetlands, including substantial input from EPA, FDEP and other stakeholders as part of the partnering process with the Navy as well as the comment and response process typically used to finalize RI Reports. Consequently, revisiting background determinations and/or comparison methods as part of this sampling and analysis plan is beyond the scope of the memorandum.

Follow-up Comment 3: Our comment is a reiteration of one we have made previously that the method of determining the upper limit of background is inconsistent with the approach typically used by the FDEP.

Second Navy Response 3: While the Navy appreciates and understands the approach typically used by FDEP, based on a review of all of the data and the multiple physical settings of the wetlands, the Navy intends to follow a best management approach to evaluating background. The Navy will utilize the following approach: (1) new reference data will be collected; (2) both new and old reference data will be evaluated to generate a revised background data set; and (3) the revised background data set will be used to determine whether chemicals detected at OU16 wetlands are site-related following the methods contained in Navy's Background Guidance (Guidance for Environmental Background Analysis, Volume II: Sediment, April 2003).

Follow-up Comment 3: The response is satisfactory.

Comment 5: The sediment screening level hierarchy (page WS 11-5) proposes to utilize the FDEP probable effect levels (PELs) for delineation purposes. Usually the threshold effect levels (TELs) are utilized for screening as well as delineation purposes. Use of the PEL for delineation could result in an average wetland contaminant concentration that exceeds the TEL.

Navy Response 5: An RI Report has already been developed for NAS Pensacola wetlands, including substantial input from EPA, FDEP and other stakeholders as part of the partnering process with the Navy as well as the comment and response process typically used to finalize RI Reports. Consequently, findings in the RI Report and subsequent discussions were integrated into the sampling and analysis memorandum. It was noted the TECs and TELs would not be used because this investigation is not a screening level assessment as the sites are past that stage in the risk assessment process. The sampling approach was discussed with the partnering team while the memorandum was being developed.

Follow-up Comment 5: Our comment was intended to address the use of the PEL for delineation purposes specifically. There are at least two potential problems with using the PEL for delineation: 1) Concentrations below the PEL can have negative impacts on benthic invertebrates, and consequently a wetland delineated using a PEL underestimates the size of the affected area; and 2) Delineation using the PEL can result in an average concentration within the delineated area that exceeds the TEL.

Second Navy Response 5: The RI report and risk assessment are complete; therefore, the screening level TELs are not appropriate for this phase of the investigation. In addition, as stated in Approach to the Assessment of Sediment Quality in Florida Coastal Waters, "These guidelines are intended to be used as one tool in a toolbox of companion interpretive approaches..." and that the TELs and PELs "should not be used in lieu of water quality criteria, nor should they be used as sediment quality criteria". Therefore use of PELs as not-to-exceed values is not appropriate, since empirical data from the site has been and will be used to calculate PRGs, as recommended by the Florida Sediment Quality Guidance.

The Navy agrees to provide comparison of the detected concentrations to site-specific PRGs, PELs, and background concentrations for assessment and discussion by the Team. Remedial goals for the OU 16 FS will be based on the analytical chemistry and/or toxicity testing results that will be obtained as part of the fieldwork and testing planned for this investigation. Planned testing and corresponding DQOs will be documented in the SAP.

Follow-up Comment 5: The response indicates agreement with our recommendation that the PELs not be utilized for delineation purposes. The response is satisfactory.

Comment 8: The duration of the proposed sediment toxicity tests is unclear. However, the draft Response to U.S. EPA Technical Comments (dated 30 July 2012) suggests the tests will be shortened to a 14-day exposure period for both *Leptocheirus* and *Hyalella*. It is important to note that 14-day toxicity testing for these species does not include reproduction. We recommend a chronic exposure period (28-60 days) to include reproductive endpoints as well as growth and survival. Reproductive endpoints may be more sensitive to some contaminants, and therefore contaminant concentrations

protective of growth and mortality may not be protective of reproductive effects. Chronic reproductive endpoints are indicative of population level effects and should be evaluated unless there is evidence that reproduction is not the most sensitive endpoint for the contaminants of concern.

Navy Response 8: The chronic tests recommended by the reviewer may be appropriate for sites in the initial phases of investigation, but since the RI has been completed and finalized using shorter durations (7 to 28 day toxicity tests), it is critical that the same test organism and duration be used to ensure that consistent decisions be made during the FS process. The 14-day acute toxicity tests proposed for both test organisms will provide survival as an assessment endpoint, although with *Hyalella azteca*, growth will be measured and may be evaluated as a secondary sublethal assessment endpoint.

Follow-up Comment 8: We understand the point regarding consistency. Using 28-day tests would be consistent with testing conducted during the RI and arguably better capture reproductive endpoints than the 14-day tests proposed.

Second Navy Response 8: The Navy agrees to perform chronic toxicity to assess survival, growth and reproduction endpoints if warranted based on comparison of sediment chemistry data to the criteria identified in the SAP (Background, PRGs, PELs) including number of samples with exceedances, number of chemicals that exceed, spatial distribution of samples with exceedances, and magnitude of exceedances. The sediment chemistry data will be presented to the Pensacola Partnering Team with proposed toxicity sample locations before collection. Final toxicity sample locations will be discussed and agreed upon by the Pensacola Team before collection. The decision rules for toxicity testing are presented on Worksheet #11 in the SAP. The Standard Operating Procedures for the toxicity tests from Hydrosphere are attached.

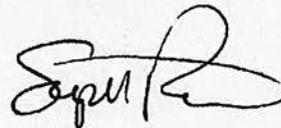
Follow-up Comment 8: The proposed chronic toxicity testing methodology is satisfactory.

The document contained no Table of Contents, tables, or calculations. Conclusions and recommendations are implicit in the Navy responses to comments, and we have provided our comments and recommendations in the form of follow-up comments. Minor typographical errors in the presentation of our original comments and the Navy responses have been corrected while reproducing them in the section above.

Sincerely,



Leah D. Stuchal, Ph.D.



Stephen M. Roberts, Ph.D.