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NAS PENSACOLA
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LETTER REGARDING FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION AND
UNIVERSITY OF FLORIDA REVIEW AND COMMENTS ON DRAFT SAMPLING AND
ANALYSIS PLAN WETLAND SEDIMENT SAMPLING OPERABLE UNIT 16 SITE 41 NAS
PENSACOLA FL
12/17/2012
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION



FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

BOB MARTINEZ CENTER
2600 BLAIRSTONE ROAD
TALLAHASSEE, FLORIDA 32399-2400

091
RICK SCOTT
GOVERNOR

JENNIFER CARROLL
LT. GOVERNOR

HERSCHEL T. VINYARD JR.
SECRETARY

December 17, 2012

Ms. Patty Marajh-Whittemore
Naval Facilities Engineering Command Southeast
IPT, Gulf Coast
Building 135
Naval Air Station Jacksonville
Jacksonville, Florida 32212-0030

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

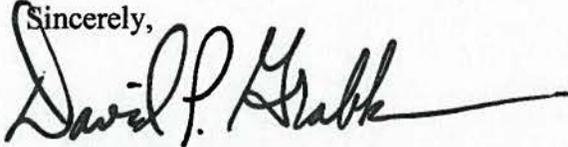
Dear Patty:

The Department has reviewed the Draft Sampling and Analysis Plan (SAP), Wetland Sediment Sampling, Operable Unit 16 – Site 41, Naval Air Station Pensacola, dated September 2012 (received September 28, 2012) prepared and submitted by Resolutions Consultants. The Department requests that sediment toxicity testing be conducted to determine chronic toxicity to the test organisms. This would entail 28-day tests for the marine and estuarine amphipod *Leptocheirus plumulosus* (EPA 600/R-01/020) and 42-day tests (Test Method 100.4) for the freshwater amphipod *Hyaella azteca* (EPA 600/R-99/064). The 14-day acute toxicity tests proposed for both test organisms will provide only survival as an assessment endpoint, although with *Hyaella azteca*, growth will be measured and may be evaluated as a secondary sublethal assessment endpoint. According to *A Guidance Manual to Support the Assessment of Contaminated Sediments in Freshwater Ecosystems Volume III – Interpretation of the Results of Sediment Quality Investigations* (Ingersoll and MacDonald, 2002) “The longer-term tests in which growth and survival are measured tended to be more sensitive than shorter-term tests, with acute to chronic ratios on the order of six indicated for *Hyaella azteca*. Based on these analyses, if only one of these tests were performed, it would be desirable to conduct chronic (i.e., 28- to 42-day) sediment toxicity tests with *Hyaella azteca* measuring survival and growth (as length) instead of 10- to 14-day tests with *Hyaella azteca*, *Chironomus tentans*, or *Chironomus riparius*.” I have also attached to this letter comments on the Draft SAP from Ligia Mora-Applegate and the Department’s contracted risk assessors with the University of Florida. Please revise the SAP in order to address their comments.

Patty Marajh-Whittemore
Draft Sampling and Analysis Plan
Site 41 – Wetlands
Naval Air Station Pensacola
Page 2 of 2
December 17, 2012

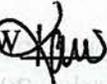
If I can be of any further assistance with this matter, please contact me at (850) 245-8997.

Sincerely,



David P. Grabka, P.G.
Remedial Project Manager
Federal Programs Section
Bureau of Waste Cleanup

CC: Tim Woolheater, EPA Region 4, Atlanta
Gerald Walker, TtNUS, Tallahassee
Greg Campbell, NAS Pensacola
Sam Naik, CH2M Hill, Atlanta
Allison Harris, Ensafe, Memphis, TN

KAW 

References:

Ingersoll, C.G. and D.D. MacDonald. 2002. *A guidance manual to support the assessment of contaminated sediments in freshwater ecosystems. Volume 3 - Interpretation of the results of sediment quality investigations*. Prepared for United States Environmental Protection Agency Great Lakes National Program Office.



**FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION**

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HERSCHEL T. VINYARD JR.
SECRETARY

MEMORANDUM

TO: David Grabka, PG II
Federal Facilities Section, BWC

THROUGH: Brian Dougherty, Administrator
Program & Technical Support Section, BWC

FROM: Ligia Mora-Applegate, Environmental Consultant
Program & Technical Support Section, BWC

SUBJECT: NAS Pensacola Site 41 Wetlands
Pensacola, Escambia County, Florida
Sampling and Analysis Plan, September 2012
Site ID#: DOD_11_1852

DATE: November 27, 2012

11/27/2012
X 
BWD

11/27/2012
X 

At your request, I have reviewed the Draft Sampling and Analysis Plan (SAP), for the Wetland Sediment Sampling, Operable Unit 16 – Site 41, at the Naval Air Station in Pensacola. This report was prepared by Resolution Consultants and is dated September 2012.

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.

The wetlands were originally investigated in a multiphase RI finalized in 2005. This plan describes wetlands identified for further sampling in partnering meetings, teleconferences and comments; and identifies contaminants selected to be sampled, and proposed sampling locations. It also describes decision rules to be utilized for sampling collection and data analysis as to discern when additional action such as toxicity testing is necessary.

In general I am in agreement with this plan but there are a few concerns that still need to be addressed such as the development of remedial goals.

Sections 11.3 and 11.5 are not clear in describing how the Preliminary Remediation Goals (PRGs) that will be used as the overall ecological Project Action Limits (PALs) will be developed. It was agreed during the March 27 – 28, 2012 meeting that new toxicity data would be used as part of the development of the new PRGs and therefore the PALs and this statement appears to be invalidated by stating that “the PRGs will be used as the overall ecological PAL, if it was calculated as part of the FS”.

Additional parameters such as iron in wetland 4D and DDT in wetland 6 need to be tested.

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

As previously discussed, the sampling plan appears reasonable and the approach to data analysis also appears reasonable; however I would like to emphasize that the Probable Effect Levels (PELs) should only be used as a not-to-exceed values.

The University of Florida's comments are attached. I concur with them and recommend that all of their comments be addressed.

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

MEMORANDUM

To: David Gault, PG II
Federal Facilities Section, BWC

FROM: Brian Dougherty, Administrator
Program & Technical Support Section, BWC

SUBJECT: U.S. Environmental Protection Agency, Environmental Contaminant
Program & Technical Support Section, BWC

RE: NAS Pensacola Site #1 Wetlands
Pensacola Escambia County, Florida
Sampling and Analysis Plan, September 2012
Site ID: DDT 17183

DATE: November 27, 2012

At your request, I have reviewed the Sampling and Analysis Plan (SAP) for the Wetland Resource
Monitoring Operation Unit 17 - Site #1, at the Naval Air Station in Pensacola. This report was prepared by
Resolution Consultants and is dated September 2012.

The SAP outlined the Wetlands at the NAS Pensacola Facility into a single Operation Unit (OU).
Site #1 encompasses approximately 81 wetlands on wetland complexes, both upland and coastal.
The SAP within the SAP boundary. These wetlands are either permanent or seasonal and drain into Bayou
Grande or Grande Bay.

The wetlands were originally investigated in a multi-phase RI finished in 2005. The plan describes
wetlands intended for future sampling in permanent, seasonal, upland, and coastal; and
wetlands considered to be sampled and proposed sampling locations. It also describes
provisional sites to be sampled for sampling collection and data analysis as to discuss when sedimentation
such as toxicity testing is necessary.

It is noted that in operation - the sampling plan does not address a few concerns that will need to be addressed
such as the development of wetland goals.

Sections 1.3 and 1.4 are not clear in describing how the Preliminary Remedial Investigation (PRI) (PRGs) are
will be used in the overall ecological project Action Plan (AP) will be developed. It was agreed
during the March 27 - 28 2012 meeting that new toxicity data would be used as part of the development
of the new PRGs and therefore the PALs and this statement appears to be contradicted by stating that the
PRGs will be used as the overall ecological PAL. If it was intended as one of the PRGs.

Additional parameters such as iron in wetland #1 and DDT in wetland #2 need to be tested.



Center for Environment & Human Toxicology

PO Box 110885
Gainesville, FL 32611-0885
352-392-2243 Tel
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November 26, 2012

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

Re: Review of the Sampling and Analysis Plan for OU 16 (Site 41, Wetlands) for NAS Pensacola (Escambia County, DOD_11_1852)

Dear Ms. Mora-Applegate:

At your request, we have reviewed the *Draft Sampling and Analysis Plan (SAP), Wetland Sediment Sampling, Operable Unit 16 – Site 41, Naval Air Station Pensacola, Pensacola, Florida*. This document was prepared by Resolution Consultants and is dated September 2012. The plan summarizes wetlands and contaminants selected for further sampling, proposes additional sampling locations, and develops project action levels (PALs) for the contaminants of concern (COCs). It also develops decision rules for data analyses to determine when samples are considered contaminated and when further evaluation (such as toxicity testing) is necessary. The plan utilizes comments and suggestions made during Partnering Meetings held on March 27-28, 2012 and May 9, 2012 to direct sampling locations and data analyses. Overall, we agree with the additional sampling and locations proposed in this document. However, we continue to have concerns regarding the development of remedial goals for the site. We have the following comments regarding the document.

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 September 20, 2012, it was noted that iron continues to be a concern for this wetland. We recommend that proposed additional sampling in Wetland 4D include iron to better determine the extent of iron contamination in sediment and surface water.
2. During a Partnering Meeting on March 27-28, 2012, field verification was proposed for Wetland 6 to determine if additional sampling for DDT is necessary (Appendix A). A site visit on September 20, 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.
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

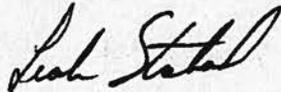
the site. The upper-end of the range of background concentrations is usually defined as the lower of twice the mean or the maximum detected concentration. This methodology prevents an overestimation of the upper limit of background that could result from a few elevated reference samples.

4. The use of PALs in Sections 11.3 and 11.5 is unclear (Worksheet 11). The document states that site-specific preliminary remedial goals (PRGs) will be reassessed using chemistry and toxicity data collected during this sampling event. However, it also states that if a PRG was calculated as part of the feasibility study (FS), the PRG from the FS will be utilized as the PAL. The PALs are then utilized to determine the extent of contamination. At the March 2012 Partnering Meeting (Appendix A), both the University of Florida and the US EPA expressed concern regarding the interpretation of toxicity testing and derivation of the PRGs in the FS. It was also agreed in a Partnering Meeting on May 9, 2012 (Appendix B) that the old toxicity testing data would not be utilized for determining ecological toxicity at the site. These values should not be proposed for determining the extent of contamination in the SAP.
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.
6. Only three samples are proposed per reference wetland for a total of six freshwater and six estuarine reference samples. Six samples are not adequate to determine upper background concentrations with any certainty. The small number of proposed background samples is likely to result in a data set that will overestimate upper background concentrations. We recommend two additional samples per wetland for a total of ten samples per environment.
7. Sample 041M3306 in Wetland 33 (Figure 17-12) is the only sample proposed outside of a wetland boundary. It is unclear why a proposed reference sample does not actually lie within the boundaries of a wetland. Further explanation is necessary to clarify the placement of this sample.
8. The duration of the proposed sediment toxicity tests is unclear. However, the draft *Response to USEPA Technical Comments* (dated July 30, 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.
9. Page WS 11-4 states the PRGs in the FS were derived from the higher of the reference/background concentrations, sediment screening levels, and sediment

refinement levels. The PRGs were actually the higher of the reference/background, sediment screening levels, sediment refinement levels, and site-specific toxicity levels developed from sediment toxicity testing.

As requested, we have reviewed the reference citations, tables, figures, Table of Contents, List of Tables, and List of Figures for accuracy. All of these elements were correctly represented in the document. Typographical, formatting, and other editorial errors were noted in the above comments. "Conclusion" and "Recommendations" sections were not included in the document so a review of these sections did not apply. Please let us know if you have any questions regarding this review.

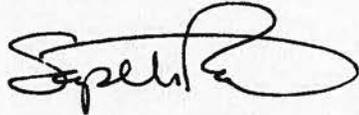
Sincerely,



Leah D. Stuchal, Ph.D.



Roxana E. Weil, Ph.D.



Stephen M. Roberts, Ph.D.