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NAB LITTLE CREEK
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TECHNICAL MEMORANDUM ADDITIONAL SAMPLING AT SITE 12 NAB LITTLE CREEK VA
11/3/2000
CH2MHILL

NAB Little Creek - Additional Sampling at Site 12

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DATE: November 3, 2000

This memorandum summarizes proposed additional sampling in the drainage ditch adjacent to Site 12 on Naval Amphibious Base (NAB) Little Creek, Virginia Beach, Virginia. A portion of the Little Creek Eco Subgroup (Chris Wallace, John McCloskey, and myself) has discussed this proposed sampling and has agreed to the approach summarized in this memorandum.

I. Objective

Since the completion of the screening ecological risk assessment (SERA) for Site 12 (July 2000), the City of Virginia Beach has dredged the drainage ditch adjacent to Site 12 to improve storm water capacity. Thus, the data on which the SERA were based, and which to conduct Step 3 of the ERA process, are no longer applicable. The objective of this additional sampling program is to collect post-dredging data from the ditch on which to evaluate potential ecological risks associated with past activities at Site 12.

II. Proposed Approach

The proposed sampling focuses on surface water and shallow sediments located upstream of, adjacent to, and downstream of Site 12. Sampling locations will be co-located with locations used during previous sampling events. Five sampling locations are proposed, as follows (see Figure 10-1 of the final SERA):

- LC12SW105-95C/LC12SED105 (upstream)
- LS12-SW203-97D/LS12-SD203-01 (adjacent - at previous outfall)
- LS12-SW202-97D/LS12-SD202-01 (adjacent - groundwater plume)
- LS12-SW201-97D/LS12-SD201-01 (adjacent - groundwater plume)
- LS12-SW205-97D/LS12-SD205-01 (downstream)

*grain size
analysis
for
(min 1 location)*

Sampling locations will be photo-documented and positions recorded to one-meter resolution with a Global Positioning System (GPS) receiver.

Work within the drainage ditch near Site 12 (installation of box culverts) is still underway and is tentatively scheduled to be completed on or about 9 November 2000. The sampling program summarized in this memorandum will commence no earlier than two weeks following the completion of the construction work. This two-week period should allow sufficient time for

sediments which have been suspended due to the construction to settle out of the water column.

Sampling will be conducted starting with the most downgradient location and working upstream. Surface water samples will be taken at mid-depth from the east bank of the drainage ditch. Following the collection of surface water samples, sediment samples will be taken at a depth of 0 to 6 inches using a small Ponar dredge at the same location.

Surface water analytes will include: (1) Target Compound List (TCL) Volatile Organic Compounds (VOCs); (2) Target Analyte List (TAL) metals (total and dissolved); and (3) hardness. Sediment analytes will include: (1) TCL VOCs; (2) TAL metals; (4) total organic carbon; and (4) pH. In addition, field measurements of the following parameters will be taken from the water column: (1) temperature; (2) pH; (3) conductivity; (4) salinity; (5) dissolved oxygen; (6) water depth; (7) flow rate; and (8) channel width. The habitat at the sampling locations will be described. A qualitative description of the sampled sediments (e.g., color, grain size, etc.) will be recorded based on visual observations.

A formal work plan will not be produced for this sampling event. This memorandum and previous work plans used for monitoring programs (e.g., Site 7) at NAB Little Creek will serve to document the methods and procedures (e.g., frequency of duplicate samples, collection of blanks, equipment decontamination procedures).

III. Sample Analysis and Validation

A standard 28-day turnaround time will be used for all analytical samples. Analytical results will be validated by an independent data validator using the U.S. Environmental Protection Agency Region III modifications to the National Functional Guidelines.

IV. Reporting

The data will be reported as part of the Step 3 baseline ERA for Site 12.