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NAS CECIL FIELD
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LETTER AND COMMENTS FROM U S EPA REGION IV REGARDING DRAFT FEASIBILITY
STUDY REPORT OPERABLE UNIT 6 SITE 11 NAS CECIL FIELD FL
10/20/1997
U S EPA REGION IV

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY



REGION 4

61 Forsyth Street
Atlanta, Georgia 30303-3104

October 20, 1997

4WD-OTS

MEMORANDUM

SUBJECT: Draft Feasibility Study Report, Operable Unit 6, Site 11, NAS Cecil Field,
Jacksonville, Florida

FROM: William N. O'Steen, Environmental Scientist
Office of Technical Services, Waste Management Division

TO: Deborah A. Vaughn-Wright, Remedial Project Manager
BRAC Team

This memorandum responds to your request for a review of the **Draft Feasibility Study Report for NAS Cecil Field Operable Unit 6, Site 11**. For your convenience, comments are referenced to specific sections or pages of the report, as applicable.

For clarity, the last sentence in the first full paragraph on page 2-7 needs to identify 4,4-dichlorodiphenyltrichloroethane as DDT.

On pages 2-8 and 2-9, the discussion of potential soil contaminant leaching to ground water is inconclusive or vague with respect to DBCP. The RAO discussion on page 2-9 indicates that the only concern is the potential for human exposure to subsurface soil arsenic contamination, yet the DBCP discussion acknowledges that observed soil concentrations were above a screening level value for DBCP soil contaminant leaching to ground water presented in a referenced EPA document. Either these soil DBCP concentrations are a concern (and thus an RAO would be to remediate the area of contaminated soil containing those concentrations), or the DBCP is not a concern, based on some acceptable type of analysis of the soil contamination magnitude and

leaching potential. Based on the Section 2.4 identification of DBCP as a subsurface soil COC, and the conservative approach taken by Florida with respect to soil contaminant leaching to ground water, the latter does not appear to be the case. Either way, the text is incomplete. Table 2-4 presents information concerning soil action levels which either is, or appears to be, contradictory to information presented elsewhere in the report, or which is not supported by any analysis included in the report prior to the inclusion of this table. For DBCP, it is unclear from where the reported "0.002" action level is obtained. The table either needs to reference the text on report page 2-17 (where this number is explained), or the table needs to be moved to some point following page 2-17. The cited soil arsenic goal of 15 mg/Kg is a screening value. In the absence of a more comprehensive calculation of soil remedial goals for ground-water protection, generally where some degree of unacceptable ground-water contamination by arsenic had been observed, use of this number as a soil remedial goal would be considered appropriate by the EPA. However, it is not a value which the EPA considers as the soil remedial goal for arsenic to address concerns about contaminant leaching to ground water. More to the point here, if there is no ground-water arsenic contamination detected above state or Federal drinking-water standards, the subsurface soil probably does not need to be addressed with respect to the potential for soil arsenic contamination leaching to ground water. This is certainly the thought process described at the bottom of page 2-8, and is consistent with the current position used by this program (EPA Region 4 Waste Management Division, Office of Technical Services).

On page 2-20, in Section 2.6.2, the text refers to "uniform proportional degradation". The definition of this process is unknown, and it would need to be defined, if it is a validly assumable concept. It may not be a validly assumable concept, however, if it means or implies that the concentration decrease with distance is a result of contaminant degradation. The observed concentration decrease could be the result of a number of factors, or combination of factors, including degradation. The use of the term "degradation" appears inappropriate here.

The discussions on page 2-21 do not belong in a section of the report titled VOLUME OF CONTAMINATED MEDIA.

It is surprising that the Section 3.1 identification and screening of soil remedial technologies does not include some type of soil stabilization/solidification process in at least an initial screening evaluation.

The Table 3-3 identification of SVOCs as COCs appears inconsistent with the identification of COCs in Table 2-3 and Table 2-4 of the report.

In-situ treatment of ground water by air sparging is identified as an overall low cost alternative in Table 3-4, while all of the ex-situ treatment options for ground water are identified as high-cost alternatives. Yet in the comparative analysis of ground-water alternatives (reference Table 5-4), the ex-situ alternative is identified as the lowest cost alternative of those which involve some degree of active remediation.

Referring to Section 4.3.1, bottom of page 4-7, since there are two areas of soil contamination (Anomaly 4 and Anomaly 7) which would need to be addressed by soil remedial alternative S-3, it

may be more appropriate to collect two composite soil samples, to define each subarea of soil contamination before deciding on the soil disposal option for that area. The report implies that soil contamination in those two areas is (or was) quite different (reference the description of soil maximum concentration data in report Section 2.6.1). Therefore, I recommend not specifying on page 4-9 that only one composite soil sample be collected to define the degree of overall soil contamination. A composite sample from each subarea would seem to be a better approach.

Since there is no difference between alternatives GW-1 and GW-2 with respect to processes which would actually remediate the ground water (if any), it is incorrect to indicate alternative GW-1 would not meet ARARs and indicate in Section 4.5.1 that alternative GW-2 would meet ARARs. Likewise, natural degradation processes would reduce concentrations in the same manner for both alternatives, so the description of the reduction in contaminant mobility, toxicity, and volume will be the same for both alternatives.

On page 4-20, under the heading Treatment, the text indicates or implies that reducing suspended solids concentrations will yield uncontaminated ground-water samples. This may be correct with respect to inorganic constituents, but is unlikely to be the case for the DBCP contamination.

It is unclear what is meant in the discussion under the heading Compliance with ARARs on page 4-23. Assuming that a "target cleanup level" is the same as an action level, the only value specified in report Section 2.0 is the DBCP chemical-specific ARAR. In that case, the RAO for ground water would not be met until the "target cleanup level" is attained.

In Appendix C, on the first page, the second paragraph states that a porosity of 0.25 was assumed for the aquifer. The table on the following page shows that the porosity of the aquifer is assumed to be 0.2 for purposes of defining the retardation factor. The numbers should either be consistent, or some explanation as to why they are inconsistent is needed.

In Table C-3, values for the Koc, foc and Kd are either erroneous, or are inconsistent with values presented elsewhere in Appendix C. If there are valid reasons for inconsistencies in numerical values used in Appendix C calculations, these reasons must be explained in detail.

Assuming that the "volume of sphere of influence" (reference Table C-3) is defined as $Br2h$, $V/Br2 = 48.1$ feet. This value exceeds the 19-foot aquifer thickness referenced on the first page of Appendix C.

If you have any questions concerning this memorandum, or need additional technical assistance, please contact me at x28645.