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Department of Environmental Protection

Lawton Chiles
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Tallahassee, Florida 32399-2400

Virginia B. Wetherell
Secretary

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NAS PENSACOLA
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May 23, 1995

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Bill Hill
Code 1851
Southern Division
Naval Facilities Engineering Command
P.O. Box 190010
North Charleston, South Carolina 29419-0068

RE: Draft Remedial Investigation Report, Site 38 - Building 71 and associated Industrial Waste Treatment Plant (IWTP) Sewer Line, Naval Air Station Pensacola.

Dear Mr. Hill:

Enclosed are comments to the Risk Assessment from Dr. Roberts and Ms. Fugler. These comments should be added to the comments from myself, dated April 12, 1995. Sorry for the delay in sending them to you.

If I can be of any further assistance with this matter, please contact me at (904) 921-9989.

Sincerely,

David M. Clowes, P. G.
Remedial Project Manager

/dmc

cc: Ron Joyner, NAS Pensacola
Allison Humphris, EPA Region IV
Henry Beiro/Brian Caldwell, Ensafe, Pensacola
Phil Crotwell, Bechtel, Knoxville, TN
Tom Moody, FDEP Northwest District
John Mitchell, FDEP Natural Resource Trustee

TJB JJC ESN

Florida Department of

Memorandum — Environmental Protection

TO: David Clowes, DOD Facilities Technical Review

BUREAU OF WASTE CLEANUP

THROUGH Jim Crane, Bureau of Waste Cleanup JGC

FROM Jane Fugler, Hazardous Waste Sites Technical Review

APR 1 8 1995

DATE: April 18,1995

TECHNICAL REVIEW SECTION

SUBJECT: Risk Assessment Review for NAS Pensacola Site 38

I have reviewed the risk assessment portion of the November, 1994 "Draft Remedial Investigation Report for Site 38, NAS Pensacola". I do not recommend concurrence with the conclusions that are suggested until the following concerns are addressed.

1. Section 4 explains that the groundwater contamination from Site 38 enters Site 2 and is considered in the risk assessment for Site 2. This aspect was not stressed nor clearly assessed in the Site 2 assessment.

2. It is difficult to determine whether the air emission suxvey is acceptable. Weather conditions, sampling and analysis methods, and assumptions were not discussed.

3. Trichloroethene (TCE) and tetrachloroethene (PCE) concentrations exceeded the groundwater guidance concentrations, therefore the soil leaching values should be used for screening for COPCs.

4. The FDEP secondary standards were not used for toluene, ethylbenzene and total xylenes for the screening of groundwater contaminants.

5. On page 9-1, it states that the hydrocarbon plume near the UST will be addressed separately from this assessment. Why is this?

6. Page 10-19, ¶1 states that the future use will be calculated for only occupational exposure for soil; ¶3 contradicts this. Residential exposure should be considered.

7. It is not clear where the exposed soil is in the area north of South Avenue and whether this exposed soil was completely assessed. PCE and TCE were found in the IWTP Sewer Line Area in concentrations exceeding the soil leaching guidance concentrations and therefore should be denoted as COPCs in Tables 10-8 and 10-12.

8. The FDEP guidance concentration for Naphthalene in groundwater is 6.8 ppb which is exceeded at Site 38 and therefore should be denoted as a COPC in Table 10-16. It appears that

the FDEP standards were not used for groundwater and some soils assessments in Tabla 10-12 and 10-16.

9. On page 10-62, the child trespasser, ages 7-18 years old, was only considered. The reason being there is a Boy Scout Camp nearby. However, siblings often attend these functions and therefore children under 7 years old should also be considered potential trespassers.

10. The UCL values appear very high in Table 10-22; these calculations should be checked.

11. In Table 10-23, the high detection of Aroclor 1254 indicates a possible hot spot, therefore the 95% UCL calculation would not apply here. The highest detected value should be used, unless further delineation of the contaminated area is conducted.

12. In Tables 10-26 and 10-27 and Figure 10-1 some of the parameters are incorrect. The following should be used:

	Child	Resident Adult	Onsite Worker
Exposure Frequency	80 d/y		
Ingestion Rate	200 mg/d	120 mg/d	50 mg/d
Adherence Factor	.2	.2	.6

/jf

UNIVERSITY OF FLORIDA

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BUREAU OF WASTE CLEANUP

APR 1 8 1995

TECHNICAL REVIEW SECTION

April 14,1995

Ligia Mora-Applegate
Bureau of Waste Cleanup
Florida Department of Environmental Protection
Room 471A, Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Dear Ms. Mora-Applegate:

I have reviewed at your request ***Section 10, Baseline Risk Assessment for NAS Pensacola Site 38.*** Based on this review, **I** have the following general and specific comments:

1. On pg 10-17, the document states, "Any COPC that is carried through the risk assessment process and found to contribute to a pathway that exceeds a 10^{-4} risk ... and has an incremental lifetime cancer risk (ILCR) greater than 10^{-6} ... is referred to as a chemical of concern (COC)." ***Also,*** on pg 10-24, it states, "An individual cancer risk threshold of 10^{-6}, based on EPA standard limits, was used in the COC selection process only if the corresponding exposure pathway resulted in a total cancer **risk** of 10^{-4} or greater. " From an FDEP perspective, any chemical with an ILCR > 10^{-6} is **a** COC, regardless the pathway risk.

2. Combined surface and subsurface soil concentrations were initially evaluated using screening concentrations based on direct contact under an industrial land use scenario (pg 10-19). Combined surface and subsurface soil concentrations may also be relevant as a source of groundwater Contamination. Accordingly, comparison with soil screening concentrations based on partitioning of contaminants to groundwater would be useful.

3. Soil concentrations in some areas were screened using industrial land use values, while concentrations in other areas were screened using residential values. The rationale for this distinction **is** not clear, despite the discussion ***on*** **pg** 10-19. Since future residential land use is considered **a** possibility for Site **38,** residential soil screening values should have been used consistently.

4. Table 10-8 (and elsewhere): "(mg/kg)" should be removed from beneath "Frequency of Detection".

5. Table 10-9: This evaluation should be conducted using assumptions consistent with a future child resident.

6. pg 10-45, third line up from the bottom: should read " ... concentrations above <u>groundwater</u> screening information ... "

7. *An* analysis was conducted in which air concentrations resulting from volatilization of contaminants from soil were estimated and compared with air screening values (pg 10-50). The methodology for calculating the air concentrations is apparently from RAGS, Part B (1991) (see pg 10-65). More recent guidance for calculating VFs (and input values) described in the USEPA ***Technical Background Document for Soil Screening Guidance*** (EPA540/R-94/106, USEPA, 1994) results in much lower VFs for many of the contaminants at this site, corresponding to much higher air concentrations. Air concentrations for comparison with air screening levels should be re-calculated using more recent guidance before inhalation is eliminated as a relevant exposure pathway.

8. Tables 10-21 to 10-25: There appears to be a serious problem in the calculation of the 95% UCL of the mean. We could not reproduce any of the calculations, and a quick inspection reveals that many of the UCL values are substantially below the mean for that chemical. This BRA relies heavily on the UCL values in determining exposure point concentrations (e.g. Tables 10-24 and 10-25), and significant errors in their determination will translate directly to errors in risk estimation. **All of the risk estimates in tbis BRA should be considered unreliable until such time as the UCL values are re-calculated and verified.**

9. In evaluating potential risks from PAHs, TEFs from USEPA Region IV were used. It would be preferable to use the more recent guidance from USEPA ORD (***Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons***, EPA/600/R-93/089, 1993). The practical significance is that the TEF for chrysene would be 0.001 instead of 0.01.

10. Table 10-27: A future site worker should be assumed to have an exposure duration of 25 years, rather than 7 years. A soil ingestion rate of 50 mg/day, instead of 100 mg/day, would be acceptable for this worker.

11. Figure 10-1: The dermal ABF (absorption factor) for inorganics should be 0.001, instead of 0.0001, according to USEPA Region IV guidance.

12. Table 10-41 and elsewhere: A RfD for acenaphthylene exists on IRIS and should be included so that acenaphthylene risks can be calculated. Also, a TEF for benzo(g,h,i)perylene has been published (***ICF Clement, Interim Final Report***, EPA Contract No. 68-902-4403, 1988) and could be used to calculate potential cancer risks from this contaminant.

13. On the positive side, Florida primary and secondary standards, as well as guidance concentrations, were considered as ARARs when evaluating groundwater (pg 10-104). Too often, the secondary standards and minimum criteria are ignored in these risk assessments.

14. The BRA states that "A migratory pathway into Pensacola Bay could exist, and this will be addressed in NAS Site 2 RI." Having reviewed the BRA for NAS Pensacqla, Site 2, I'm not sure that it has. Groundwater flow here is toward Pensacola Bay (pg 10-58) and, in Florida, groundwater contaminant concentrations must meet surface water standards prior to mixing. Surface water sampling cannot be used to ascertain compliance, since it inherently involves a situation where mixing has been allowed to occur. Unless this aspect has been addressed in another document I have not reviewed, it should be included either in this BRA or in the BRA for Site 2.

I hope that these comments are helpful. Please let me know if you have any questions regarding them.

Sincerely,

Stephen M. Roberts, Ph.D.