FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION COMMENTS ON DRAFT SUPPLEMENTAL RESOURCE CONSERVATION AND RECOVERY ACT FACILITY INVESTIGATION REPORT FOR SOLID WASTE MANAGEMENT UNITS 1, 2, 3 AND 9 NAS KEY WEST FL

12/9/1996

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

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Department of Environmental Protection

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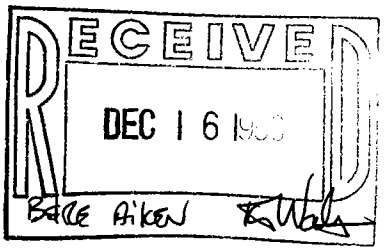
December 9, 1996



Mr. Dudley Patrick, Code 1858
Southern Division
Naval Facilities Engineering Command
2155 Eagle Dr., P. O. Box 190010
Charleston, South Carolina 29419-9010

RE: Draft Supplemental RCRA Facility Investigation Report, for SWMUs 1, 2, 3, and 9. Naval Air Station Key West, Florida

Dear Mr. Patrick:

I have reviewed the above referenced document, dated September 1996 (received September 30, 1996). Comments pertaining to the ecological portions of the report are forthcoming and, upon receipt, will be forwarded to your office for proper responses. I have the following comments:

General Comment

1. The Supplemental RFI report complements the previous work, performed by the Navy's former consultant; however, I am confused on the approach taken in presenting to the reviewer the pertinent data. The Navy, and its consultant, have undertaken an extensive background characterization study which, if performed correctly, could be used as a comparative tool to quantify the extent of environmental impact at all the NAS Key West sites. However, the main body of the report does not compare the sites under investigation to background values, instead the approach is to compare values obtained in different media to the "most restrictive ARARs" leaving the background data gathering effort as a standalone appendix of undefined use. I should point out that the Department's approach is to always consider properly obtained background levels in making further decisions regarding cleanup or risk management decisions. I encourage the Navy to reconsider its approach and incorporate a comparison to the background levels in the body of this report.

2. Since background levels are critical in any investigation, I am concerned that the results of the background analysis are presented only as statistical summaries leaving the reviewer to wonder which background location -in relationship to each site of the RFI report- exceeded Federal/Departmental standards and criteria. I recommend that the results of the analysis for each background location be adequately presented in tables attached to Appendix J.

Specific Comments

3. Page 1-8, Table 1-1: please update this table to include sites that have been closed or that never got past the PA/SI stage.

4. Page 2-12: please provide a table describing the total depths and screen intervals of all the monitoring wells utilized in the report.

5. Page 2-26, Section 2.3.2: in line with general comment No.1, a comparison to background levels would also have gone a long way in determining not only any preliminary risk but also whether a Baseline Risk Assessment was needed at all.

6. Page 2-26, Section 2.3.2: *de minimus* levels are subject to professional judgment. Please show in a table what were considered *de minimus* levels for the chemicals dropped from further consideration in the preliminary risk evaluation.

7. Page 2-27, Table 2-3: the Departmental action levels for soil have been updated since IT Corporation handled the project. The new soil action levels are dated September 1995 and were distributed to Brown & Root prior to this report being prepared.

8. Page 2-39, Section 2.4: please expand this section to detail the approach taken to generate background values for all media under consideration.

9. Page 3-12, Section 3.8.3.1: the text states "...the odor of fuel was strong." Please clarify if a sheen was observed on the surface water or if oil droplets were observed as the sediment was disturbed. This comment also applies to Section 3.8.3.2.

10. Page 4-1, Section 4.1.1: what defines the extent of the boundaries shown in Figure 4-1?

11. Page 4-4, Section 4.1.2.2: an important aspect of this investigation is that the RFI effort was performed *after* remedial actions were undertaken. I suggest that text be devoted to detail the extent and depth of removal, provide pertinent figures and confirmatory sample results as well as a brief description of Bechtel's approach to the removal actions.

12. Page 4-7, Section 4.1.4.2: there is a discrepancy in the number of wells described in this section and Figure 4-2, please clarify.

13. Page 4-18, Table 4-3: this figure is confusing because some soil boring locations show exceedances of the most restrictive ARARs/guidance and others not. For instance, did Bechtel's location H15 exceed any ARARs? What about location M14?. I suggest this map show *all* the chemicals detected or that a table be developed indicating the chemicals detected. Finally, please define the term "Chemicals of Interest".

14. Page 4-21, Section 41.1.5.2.2: the text refers to a comparison between "contamination in the interior portion of the site" and "the outlying regions". Please clarify this sentence. It is unclear if the "outlying regions" are also part of the site as defined in Figure 4-1.

15. Page 4-115, Figure 4-13: the figure shows two groundwater flow patterns. I suspect this may have been due to tidal influences, the time of measurements, or both; however, by observing the last round of measurements it is clear that all the wells are down or side gradient to groundwater flow and site disposal activities. In light of this new finding, using some of the site's wells to generate background values may be inappropriate. Please state your interpretation of the differences in groundwater flow.

16. Page 4-119, 4-120, and Figure 4-14: the figure and tables are very hard to interpret. For instance, location F-8 had two different concentrations of DDT, however, the caption in the figure shows an average of both. Since the Restoration Advisory Board will also review this document, ease of interpretation is very important. It would make better sense if both concentrations are shown and an explanation is given on the reason of obtaining two different values on the same location and on the same day.

17. Page 4-120, Table 4-36: what is a "P" qualifier? I could not find it in the general qualifier codes.

Appendix G, Field Procedures

18. Page G-72, Section 3.2.3.4: please provide the toxicity equivalence factors for carcinogenic PAHs described in Table G.3-3.

19. Page G-75, Section 3.2.4.2: is the 12 days/year exposure assumption for a maintenance worker based on factual data? Please detail the source.

20. Page G-75, 3.2.4.2: I don't understand whether the excavation worker scenario also refers to a construction worker. If it does, it is conceivable that such worker may be present at the site for more than 30 days/year.

21. Page G-86, Table G.3-9: due to the tropical climate reigning in the Keys, it is also conceivable that more than 25% of a construction worker's body surface is exposed to dermal exposure.

Appendix J, Background Characterization Report

22. Page 4-4, Section 4.1: the text indicates that high values were considered statistical outliers; however, I could not find a table showing the constituents that were detected in the site-wide as well as site-specific locations. I recommend a table be generated showing the detected constituents.

23. Page 4-5, Table 4-2: the table indicates that some samples "were not included in Run 1", however, they were still retained. This is confusing and it's not clear if there was more than one "run" and where it is located. I recommend an explanation to this table be inserted in the text or at the foot of the table.

24. Page 4-9, Figure 4-1 to Figure 4-3: please show the background locations in a site-specific perspective including the site boundary, the removal work, Bechtel's, Brown and Root's, and IT Corporation's soil borings.

25. Page 5-1, Section 5.0: the text states "BEI 1995 and IT 1994 data is of indeterminate quality". Data whose quality can't be ascertained perhaps should not have been used in the generation of background values or in the report. I recommend the text be specific regarding which data quality issues Brown & Root is referring to.

26. Page 6-1, Section 6.0: was a grain size analysis performed on site-wide soil samples? How about the site-specific soil samples? If not, please include a verbal description of the soils. Also, indicate the depth(s) of each soil sampling location and, if more than one sample was collected per location, whether they were composited or analyzed separately.

27 Page 6-6, Section 6.5: the statements "having more earthworms than normal placed into the test chambers" and "...the increased loading" i.e., *more earthworms than normal* "were placed to provide an adequate amount of tissue..." indicates that perhaps the test was not conducted according to established protocol. Furthermore, control survival also dropped below acceptable guidelines (90%) casting doubt on the quality control of the test and its conclusions.

28. Page 6-5, Section 6.5: I recommend the test be repeated not using worms (which generally are not present in environments where soil cover is minimal and the subsurface consists of competent, oolitic limestone). The consultant may wish to contact the Department's biology section to inquire about an adequate indicator species for this type of environment. Furthermore, the recognition of an absence of organic matter in the soil samples (expressed in Page 6-5) seems to indicate that perhaps worms may have not been the best indicator species to conduct soil toxicity tests.

29. Since there were problems with the toxicity test on the worms (given the qualitative information regarding the health of the organisms as well as survival below acceptable levels in the control samples) the data is not useful and should not be considered in the risk analysis.

30. Page 7-1, Section 7.0: the text states "...survival of silverside minnows was less than in laboratory controls samples but the difference was not significant"; however, the survival in control samples was only 70% which is less than accepted survival percentage levels. Statements regarding implied statistical differences are meaningless when control species survival is less than acceptable levels.

31. Page 7-1, Section 7.0: please state whether each of the species chosen for acute/chronic toxicity survival was salinity resistant.

32. Page 7-3, Table 7-2: comparing surface water data to drinking water standards may be inappropriate. For screening purposes, surface water data should also be compared to Florida Surface Water Quality Standards.

33. Page 7-3, Table 7.2: include the values for trivalent and hexavalent chromium since it appears that total chromium is reported.

34. Page 7-3, Table 7.2: some of the standards shown in the table are hardness dependent. Please indicate in a footnote the hardness of each surface water sample.

35. The low surface water survival of silverside minnows and mussel larval development is difficult to attribute to a specific detected compound and the answer to the low survival issue may lie elsewhere. I suggest re-evaluating the tests.

36. Page 8-1, Section 8.0: the statement "generic RBC for sediment do not currently exist..." is incorrect. Departmental guidance, as well as NOAA ER-L and ER-Ms, have been in existence for sometime now. A comparison of obtained values against these criteria is recommended.

37. Page 8-1, Section 8.0: it is stated that factors such as water quality or "handling stresses" may have caused mortalities in the *Mysidopsis* tests. It seems to me that if handling stresses are affecting the tests results, then the tests should have been conducted again. It seems inappropriate to attribute low survival to "handling stresses" or water quality when no investigation has been undertaken to assess these issues.

38. Page 8-1, Section 8.0: I suggest expanding this section altogether. No information is available whether the sediments were diluted, whether a grain size analysis was performed, physical description of the sediments, a qualitative description of the organic content, and whether other parameters such as TOC were also analyzed for. If the information is available, then the text should refer the reviewer to the appropriate appendix.

39. Page 9-1, Section 9.0: the use of MW-1 and MW-4 as background wells may be suspect. According to the last groundwater table measurement, the wells are down and side gradient to former disposal activities. I suggest re-measuring water table levels at the site and re-evaluating the feasibility of using the above referenced wells as background locations.

I look forward to discussing the above comments at our December 17-18, 1996 meeting. In the interim, if I can be of any assistance in this matter, please contact me at 904/921-9988.

Sincerely,

Jorge R. Caspary, P.G.

cc: Martha Berry, EPA
Kevin Walter, Brown & Root
Ron Demes, NAS Key West

TJB TB JJC JJC ESN ESN

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