MARTIN MARIETTA

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TIN MARIETTA ENERGY SYSTEMS, INC.

POST OFFICE BOX 2003
OAK RIDGE, TENNESSEE 37831

July 24, 1991

Ms. Laurie Boucher
Atlantic Division, Code 1822
Naval Facilities Engineering Command
Norfolk, Virginia 23511

Dear Ms. Boucher:

Review of the Remedial Investigation Report for Hadnot Point Industrial Area at Marine Corps Base Camp Lejeune, North Carolina - June 1991
Contract No.: N62470-83-C-6106

The report supplied has been reviewed in accordance with the Naval Energy and Environmental Support Activity (NEESA) document Sampling and Chemical Analysis Quality Assurance Requirements for the Navy Installation Restoration Program, NEESA 20.2-047B (refer to Page 70 for Final Reports requirements). The following comments are offered for your consideration.

Volume 1

1. Page 3-4: The second paragraph under Section 3.2.3 is repeated verbatim in the fourth paragraph.

2. Page 3-2: Please state when the soil gas survey was conducted. It was not until half way through the document that I realized that the soil gas survey was conducted in 1987.

3. Table 3-2: It is noted that trip blanks were not included in those coolers containing soil samples. Under the NEESA guidelines, trip blanks should have been included.

4. Page 5-5: In the discussion of soil borings, there is no mention of background samples. In reviewing the soil boring figures (Figures 3-1, 3-2, 3-3), it is not possible to ascertain which samples may be considered background. Background information is particularly important in differentiating between contamination and elevated backgrounds for metals in soils. Background levels of iron, aluminum, and other minerals vary greatly in soils across the country.

5. Page 5-6: According to the text, methylene chloride and acetone were reported as tentatively identified compounds (TICs) or were also found in the accompanying blanks. It is not clear how methylene chloride or acetone could be reported as TICs, when they are both on the Target Compound List. If these compounds are present, they should be reported as positive hits; not as TICs. The methylene chloride and acetone values found in the blanks should be reported to allow the reader the opportunity to assess the laboratory contamination.

   This was noted throughout the discussions of the various sites.

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6. Page 5-7: It is noted that quantifiable concentrations of phenanthrene, fluoranthene, and pyrene were detected in the upper two feet of HPSB-6. The text should clarify that none of the other samples from that boring were analyzed for semi-volatiles and that the vertical extent of the contamination cannot be assessed.

7. Page 5-8: In the discussion of Building 1202, it is noted that chlorobenzene and trichloroethene were detected at unquantifiable levels in four borings. Please give some information as to the depths at which the contamination was detected.

8. Page 5-10: The text states that there is a discussion of Quality Assurance/Quality Control (QA/QC) data, including blanks, in Appendix G. Only field QC is discussed in Appendix G; not laboratory QC. At this point, there is no formal assessment of laboratory data. It is not clear if project goals for precision, accuracy and completeness were met. If data underwent validation, the validator's notes and comments should be provided.

9. Page 5-11: Please clarify if Samples HPGW22, 22GW1, and 22GW2 were all from the same well. The numbers imply this, however, the results vary. If these samples are from the same well, there should be a discussion in regards to the discrepancies in the results.

10. Page 5-14: It is stated that Set Two data suggest that some petroleum hydrocarbons are present in the shallow groundwater, but that fuel leaks have not occurred. Please provide further information on how this was determined.

11. Page 5-19, 5-24: There are several references to compounds being detected as TICs. These compounds are present on the Target Compound List, therefore, it is not clear how they can be reported as TICs. TICs are those compounds which are not on the Target Compound List which have been identified.

12. Page 6-3 was omitted from the copy received.

13. It is strongly recommended that data be presented in a table format for each particular area, showing the differences in contaminants at different depths over time. It is quite confusing, after reading page after page of text. Tables may be more easily interpreted.

Volume 2

No Comments

Volume 3

1. It was not possible to assess routine data with the information provided in the report. The following information must be available to fully review the data:

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A. Chain-of-custody forms to verify dates of sample collection and receipt. The chain of custody also provides documentation regarding the use of preservatives which influence holding times.

B. Dates of extraction and analysis for all routine and QC samples. This information is required to verify that all validation holding times were met. This information is also needed to correlate samples with appropriate laboratory QC information.

C. Laboratory QC information is required. There was no information in regards to surrogate recoveries, matrix spikes, duplicates blanks, and the Navy-required blank spike analyses. Instrument information in regards to instrument tunes and calibration is also required.

D. Specific sample information is also required. This includes size of sample analyzed, any dilutions to the sample, sample preparation method, and the percent moisture of soil samples.

2. Although Mr. Ken Dahlin, of the Denver laboratory, provided a brief assessment of field QC samples, the final report should note any possible affects on routine samples. Samples with measurable contamination, associated with field QC samples, should be identified.

3. Mr. Dahlin commented on the sometimes high variability of aqueous field duplicates and attributed this to sediment in the samples. This, in all likelihood, is the primary source of the variability. The report, however, should include a discussion of why samples were not filtered and the possible effects of sediment loading on routine samples. During sampling and the analysis of samples for Camp Lejeune, there was much correspondence in regards to sediment loading in the samples. It is not clear why this is not discussed anywhere in the report.

4. There is no discussion of the high levels of organic compounds found in the mud blank in Mr. Dahlin's review, or Volume 1 of the text.

5. In Appendix F, there are two pages of EPA Soil Spike Samples results. It is not exactly clear what information this is supposed to relay. There are no spike results supplied.

6. Appendix I contains results of all three data sets for the characterization investigation of shallow monitor wells. Appendix K is supposed to contain the characterization investigation results for the intermediate monitor wells. It appears, however, that much data included in Appendix K is from the supplemental characterization of shallow wells conducted in 1991.

7. Please ensure that appendices are numbered. It is extremely hard to reference data without page numbers.

If there are any questions or comments, please call me at (615) 574-5270.

Sincerely,

Marilew H. Bartling
Project Manager

MHB:mpl

cc: A. R. Barnard-Hatmaker
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