03.01-05/16/91-00137

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C-49-4-1-165

May 16, 1991

Mr. A. R. Kissell, P.E.
Acting Head, Environmental Programs Branch
Environmental Quality Division
By direction of the Commander
Department of the Navy
Atlantic Division
Naval Facilities Engineering Command
Norfolk, Virginia 23511-6287

Subject: Response to Letter Dated April 5, 1991
Government Review Comments of NUS Installation
Restoration Documents at Marine Corps Base, Camp Lejeune

Dear Mr. Kissell:

This letter addresses the comments NUS does not agree with in your letter dated April 5, 1991. NUS will incorporate the comments not addressed in this letter in the draft final documents.

Comment: Several sites will be sampled for BTEX (benzene, toluene, ethylbenzene, and xylene), which is appropriate; however, why is there no sampling for PAH's? Can MCB Camp Lejeune state without reservation that no diesel fuels were ever used in these areas? (Page 5 of A. Kissell letter dated April 5, 1991).

Response: BTEX is being used strictly as a screening tool. This, in combination with Total Petroleum Hydrocarbons (TPH) analyses, will be adequate to determine whether or not contamination is present.

If benzene is present (as it is found in many types of fuel, such as gasoline and jet fuel), it will drive the risk assessment. Benzene is a Class A carcinogen (known human carcinogen).

The types of PAH's commonly found in fuels are naphthalene and 2-methylnaphthalene. All the other PAH's are relatively insoluble and immobile in the environment. Naphthalene is not a carcinogen, and there are no toxicity data for 2-methylnaphthalene. Therefore, these will not be significant in the risk assessment. The TPH

1analyses may detect these heavier chain hydrocarbons if they are present. When we know whether or not there is a problem, more detailed sampling may be appropriate.

Comment: EPA Method 418.1 is proposed for soil, sediment, and water analyses. North Carolina does not accept this method. Our requirements are:

a. Soil: SW 846 Method 5030 Total Petroleum Fuel Hydrocarbons (TPFH) for low to medium boiling point fuels. SW 846 Methods 5030 and 3550 TPFH for high boiling point fuels. SW 846 Method 9071 for oil and grease. TCLP for waste oil.

b. Water: EPA Methods 601 and 602 for gasoline: 625 for diesel (or the SW 846 equivalents).

Response: TPH is being analyzed only as a screening tool to determine whether soils are contaminated (e.g., containing greater than about 100 mg/kg TPH) or not. TPH results cannot be used in the risk assessment because the results are not chemical-specific and therefore potential risks cannot be underestimated.

The TPH method selected is suitable as an inexpensive screening tool. It will provide general information on whether there is a petroleum hydrocarbon problem in the soil. Other more expensive methods are available that provide more accurate results. When the time comes to delineate quantities of soil for remediation, other methods, suitable to EPA and the State, will be used.

Sincerely yours,

Daryl D. Hutson
Project Manager

DDH/jdc

cc: Ms. Laurie Boucher