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**Baker**

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November 8, 1991

AC/S, Environmental Management Division  
Building 1  
Marine Corps Base  
Camp Lejeune, North Carolina 28542-5001

Attention: Mr. Brynn Ashton, P.E.

Re: Contract N62470-89-D-4814  
Contract Task Order (CTO) 0017  
Interim Remedial Action of the Shallow Aquifer at HPIA

Dear Mr. Ashton:

Per your discussion last week with Mr. Ray Wattras (Baker Environmental Project Manager) concerning the interim remedial action of the shallow aquifer at the Hadnot Point Industrial Area (HPIA), a number of issues were discussed relating to resolving data limitations associated with remedial design parameters. Specifically, this letter addresses data limitations relating to the recommended alternative of using the Hadnot Point STP to treat contaminated shallow groundwater.

Baker is requesting additional information pertaining to the operation of the STP in order to develop a conceptual design of this alternative in the Feasibility Study (FS). Your help in providing Baker with information to a limited number of questions listed in this letter would be greatly appreciated. To assist you, background information regarding the proposed treatment option has been summarized below.

#### Background

On September 30, 1991, Baker submitted a Preliminary Draft FS Report to LANTDIV for the shallow aquifer at the HPIA. In this FS Report, the recommended remedial option included pretreatment of the water for the removal of the oil & grease and the inorganics. The pretreated waste water, containing the dissolved organics, would be discharged to the nearest sanitary sewers and treated at the existing STP.

#### Expected Influent and Effluent Concentrations

The contaminants in the groundwater which need to be treated include: benzene, toluene, ethylbenzene, xylenes, 1,2-dichloroethene (1,2-DCE), trichloroethene (TCE), several inorganics, and oil & grease. Based on the existing data/information, the expected maximum concentrations of these compounds in the influent to the STP and the required effluent concentrations are listed below.

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<u>Compound</u>	<u>Influent Concentration</u>	<u>Effluent Concentration</u>
Benzene	7900 µg/l	1 µg/l
Ethylbenzene	1900 µg/l	29 µg/l
Toluene	16,000 µg/l	1000 µg/l
Xylenes	9,800 µg/l	400 µg/l
TCE	14,000 µg/l	2.8 µg/l
1,2-DCE	42,000 µg/l	Not Established

#### Rate of Flow

Under the recommended interim remedial option, it is estimated that the rate of groundwater being discharged to the STP system would range from 40 gallons per minute to 160 gallons per minute. The high flow rate would not be reached until approximately five years of operation. The duration of the system is not known but has been assumed to be 30 years (per EPA guidelines).

#### Questions About the Existing STP

Questions affecting the evaluation of the proposed alternative that need addressed are listed below. Several of these questions have already been discussed in recent conversations with Mr. Carl Baker from the Hadnot Point STP. The purpose of this letter, though, is to document and confirm the answers since they will have a major impact on the development of the conceptual design for the treatment system for HPIA. Your input with any of these questions would be greatly appreciated.

A. Capacity of the Sanitary Sewer Lines (Figure 1 attached highlights the sewer lines that may be proposed for the discharge of the groundwater from HPIA to the STP):

1. What size are the existing lines leading from HPIA to the STP? (Figure 1 identifies 10-inch to 15-inch lines.)
2. What is the average daily flow in these sanitary lines?
3. Are the lines capable of handling an additional flow of 40 to 160 gpm?

B. Capacity of STP:

1. What is the average daily flow into the STP?
2. Is the system capable of handling an additional 40 to 160 gpm?

C. Treatment Capabilities of STP:

1. Is the STP capable of treating benzene, toluene, ethylbenzene, xylenes, TCE, and 1,2-DCE?

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2. If yes, can the system treat to the required effluent concentrations previously listed?
3. Does the plant routinely sample the treated effluent for the organics listed in Question C-1?

**D. Potential Problems:**

1. What, if any, potential problems may be associated with Baker's recommendation to utilize the existing STP for the treatment of the groundwater at HPIA? [From previous conversations, it is apparent that the EMD may have concerns that there are numerous groundwater treatment options throughout Camp Lejeune proposing the use of the Hadnot Point STP. Therefore, the capacity (both volume and treatment) could be overextended in the future.]

**E. Construction of a New STP:**

1. What type of treatment system, if known, is being proposed for a new STP?
2. Will the new plant be capable of treating the organics we are concerned with?

Your response to any or all of the above-listed questions would be greatly appreciated. If possible, please provide your written response under each question and fax or mail this letter to my attention. Our fax number is (412) 269-2002.

If you have any questions, please feel free to call me at (412) 269-2023 or Mr. Ray Wattras at (412) 269-2016.

Yours truly,

BAKER ENVIRONMENTAL, INC.



Tammi A. Halapin  
Civil Engineer

TAH/lmn

cc: Ms. Laurie Boucher, P.E.