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STATE OF MAINE
 DEPARTMENT OF ENVIRONMENTAL PROTECTION

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February 25, 2004

EA ENGINEERING,
 SCIENCE & TECHNOLOGY

MAR 01 2004

RECEIVED

Mr. Brian Helland
 Code 1811/BH
 Department of the Navy,
 Engineering Field Activity-Northeast
 Naval Facilities Engineering Command
 10 Industrial Highway, Mail 82
 Lester, PA 19113

Re: Old Fuel Farm (OFF)-Six Monitoring Events
 Naval Air Station, Brunswick

Dear Mr. Helland:

Thank you for your response to comments dated February 04, 2004, on the Draft Groundwater Monitoring Report for Six Sampling Events for the Old Navy Fuel Farm. For the record, MEDEP finds all the responses acceptable except as follows..

4. *Section 2.1.2, Groundwater Sampling Program, Page 7, 1st Paragraph*—"In accordance with the Groundwater Monitoring Plan (EA 2000a), only the shallow well was gauged and sampled at nested monitoring well clusters."

With the unexpected finding of MTBE in MW-NASB-098 (up to 15 $\mu\text{g/L}$ in April 2003), the deeper monitoring wells should be sampled because this potent gasoline oxygenate is known to "dive" to greater depths than other fuel compounds in aquifers. The emergence of this issue assumes that the MTBE in MW-NASB-098 originated from the Old Fuel Farm site, however, the groundwater potentiometric contour map (Figure 8) does not readily support this premise. Nonetheless, a one event sampling at a minimum of the deeper wells for MTBE is needed. (RR)

Response—The detected concentrations of MTBE (ranging from 5.3 $\mu\text{g/L}$ to 15 $\mu\text{g/L}$) are not unexpected since the presence of MTBE is very prevalent within the environment, occurring in the atmosphere, surface water and groundwater. As pointed out by the MEDEP, this well is not directly downgradient of the Old Navy Fuel Farm and given the low detected concentrations is most likely due another source, most likely a non-point source. Possible non-point sources include stormwater that contains fuel residues from roads, parking lots, etc. (API 1998 and USGS 1998). It has been reported that MTBE tends to stay in water and not sorb to subsurface solids, it can move to groundwater at almost the same rate as recharge water. Well MW-NASB-098 is a shallow screened well (3 to 13 feet below ground surface) and given the proximity to the road and location downgradient, this occurrence of MTBE at this location is most likely attributed stormwater runoff from roads

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The MEDEP's statement that "this potent gasoline oxygenate is known to "dive" to greater depths than other fuel compounds in aquifers", is not supported here at this site, since a steep vertical hydraulic gradient would be needed for this to occur. Additionally, we question whether MTBE would in fact show any likelihood to 'dive' to deeper portions of the aquifer at these very low concentrations. Note that MTBE dissolves easily in groundwater and moves with the flow field. We request ME DEP to provide additional documentation on the rationale for why MTBE at 3.5 to 15 ppb would be found at lower depths within the aquifer.

At this time we disagree that sampling of deeper wells at the Old Navy Fuel Farm is warranted based on concentrations of MTBE detected below the State MEG in a shallow overburden. The Navy will continue to monitor this well and report on the concentration trend of MTBE. We request additional information or references from the ME DEP to support the contention that MTBE would not follow local groundwater flow patterns, and would be more likely to be found at depth.

MEDEP Response—MEDEP is willing to accept the Navy's response at this time however if MTBE continues to increase in concentration at MW-NASB-098 further investigation maybe necessary.

11. **Table 8, Monitored Natural Attenuation Parameters, Page 2 of 2**

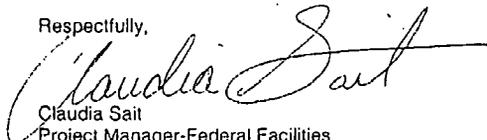
- a. Under the Conductivity column, two values appear erroneous (1.12 and 5.34). It appears that the decimal point should be removed. (ED)

Response—The field data sheets were reviewed for the April 2002 Event. The conductivity value for MW-NASB-51 was checked and the correct value is 49 $\mu\text{mhos/cm}$ for the April 2002 Event. This error in Table 8 will be corrected for the final report. The field data sheets for the September 2003 Event were reviewed. The correct conductivity value is 5.34 $\mu\text{mhos/cm}$ for well MW-NASB-245. Only one field parameter reading was collected from MW-NASB-245 due to the lack of sufficient water in the monitoring well. Sampling activities were terminated and the well was allowed to recharge before sampling as per the groundwater monitoring plan for the ONFF. Due to the lack of water in the monitoring well, only one stabilization parameter was collected.

MEDEP Response—MEDEP cannot accept the above value as valid. New fallen rain water is commonly around 20 $\mu\text{mhos/cm}$, so a value of 5 $\mu\text{mhos/cm}$ would be close to distilled water. Other reported conductivity readings for this well in Table 8 range from 402 to 641 $\mu\text{mhos/cm}$. Therefore, it looks like the decimal point has been shifted two places too far to the left. MEDEP suggests flagging this value as questionable.

If you have any questions or comments please call me at (207) 287-7713.

Respectfully,



Claudia Sait
Project Manager-Federal Facilities
Bureau of Remediation & Waste Management

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