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PITT-06-2-027

June 13, 2002

Project Number 2863

Ms. Kymberlee Keckler
Remedial Project Manager
U.S. Environmental Protection Agency – Region 1
1 Congress St.
Suite 1100 (HBT)
Boston, Massachusetts 02114-2023

Subject: Responses to EPA's May 2, 2002 Comments on the
Draft Round 9 Quarterly Groundwater Monitoring Report
For Area A Landfill, Naval Submarine Base-New London, Groton, Connecticut

Reference: CLEAN Contract Number N62467-94-D-0888
Contract Task Order Number 0816

Dear Ms. Keckler:

On behalf of the U.S. Navy, Tetra Tech NUS, Inc. (TtNUS) is pleased to submit to the U.S. Environmental Protection Agency, Region 1 (EPA), 2 copies of the subject responses. There were no modifications to the report in response to the EPA's comments on the report.

If you have any questions regarding the responses, please contact Mr. Mark Evans of Engineering Field Activity Northeast at (610) 595-0567 (ext. 162) or me at (412) 921-8984.

Sincerely,

Corey A. Rich, P.E.
Project Manager

Enclosure(s)

c: Mr. Mark Lewis, CTDEP (1 copy)
Mr. Mark Evans, EFANE (2 copies)
Mr. Richard Conant, NSB-NLON (3 copies)
Mr. Roger Boucher, EFANE (w/o enclosure)
Ms. Jennifer Hayes Stump, Gannett Fleming (1 copy)
Mr. John Trepanowski, TtNUS-KOP (1 copy)
CTO 816 – File Copy

RESPONSES TO USEPA's MAY 2, 2002 COMMENTS
DRAFT ROUND 9 QUARTERLY GROUNDWATER MONITORING REPORT
FOR AREA A LANDFILL, NSB-NLON, GROTON, CONNECTICUT
JUNE 13, 2002
1 of 2

Comment 1: p. 2-1, §2.1

The groundwater potential surface contours shown on Figure 2-2 show a rather peculiar embayment to accommodate 2LMW20S, which appears to have exhibited anomalously low water (68.81 ft msl). Later discussion of this well (§2.2) reveals that it failed to recover from purging, and that the surface pad was broken. It seems possible that the water level recorded for this well is not meaningful, and that the contouring in this area on Figure 2-2 is not well founded.

Response:

The Navy agrees that the groundwater elevation at 2LMW20S is low. A review of water level data collected from monitoring well 2LMW20S indicates that groundwater elevations in this well have generally declined from a high of 73.41 feet above msl measured during Round 3 to a low of approximately 68.8 feet above msl measured during Rounds 8 and 9. Therefore, it is likely that the low groundwater elevations in 2LMW20S are reflective of the drought conditions that the area experienced in 2001 and 2002. The Navy does not believe that water in the well vault or a cracked pad is an indication of a problem with the well itself.

Further comparison of data collected from well 2LMW20S with data from other monitoring wells in the area suggests that the drought conditions are the cause of the low groundwater elevations. When groundwater elevations at 2LMW20S are compared to elevations measured in well 4MW1S for Rounds 1 through 9, there are consistent increases and decreases in the water levels throughout the different seasons. A comparison to groundwater elevations at 2WMW46DS and 2WMW47DS show that these wells are less sensitive to seasonal changes than the upgradient wells, which is expected as they are screened in dredge spoil material along the surface water boundary.

Past analysis of hydraulic gradients across the landfill (the groundwater modeling study) indicate that the hydraulic gradient at this end of the landfill is relatively flat. Dredge spoil thickness is up to 20 feet in the landfill area. Monitoring well 2LMW20S is screened predominantly in silty sand. The drilling of this well and the former deeper well 2LMW20D noted the presence of large boulders in this area, which made drilling difficult. It was thought that there was a former valley in this area, and the contouring of the water level at this well reflected that. However, the Navy agrees that it would be unusual for the water level at 2LMW20S to be approximately 2 feet lower than the downgradient wells.

The Navy does not propose to complete any changes to the Round 9 report in response to this comment. The Navy will continue groundwater monitoring activities for the Area A Landfill and will evaluate the groundwater elevations and monitoring well condition for well 2LMW20S.

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Comment 2: p. 2-2, §2.2

It is interesting to note that the field parameters (Table E-1) show the lowest Eh yet measured in the monitoring program for six of the monitoring wells sampled. Water levels of the upgradient wells are also unusually low (Table 2-1) (*e.g.*, 4MW1S was at 119.65 ft in Round 9, in comparison to 122.68 ft one year earlier (Round 5)). It seems possible that the dry conditions of late summer and fall of 2001 may have affected groundwater redox conditions because of the relatively low hydraulic gradient, reduced flux, and longer residence time.

Response:

Comment noted.

Comment 3: Table E-1

The Eh reading for 2WMW21S is -581 mV, much lower than that measured in previous rounds. This datum is suspect; water is not stable at this Eh and pH (6.29). This value should be shaded in the table.

Response:

Agree. The entry will be shaded in subsequent versions of the table that are issued with subsequent reports.

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