

# STATE OF NEW HAMPSHIRE

INTER-DEPARTMENT COMMUNICATION

**CONFIDENTIAL**



DATE: January 23, 1998



AT(OFFICE): Permitting and Design Review Section

FROM: John Cotton, Hydrogeologist  
through John Regan, Supervisor  
Hazardous Waste Remediation Bureau

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Per DOJ/AMY MILLS  
MM 1-23-02*

SUBJECT: **BETHLEHEM, North Country Environmental Services, Water Quality Monitoring Results (DES #198704033)**

TO: P&DRS File through Pamela H. Sprague, Supervisor  
Permitting and Design Review Section  
Solid Waste Management Bureau

Richard S. Reed, Administrator  
Solid Waste Management Bureau

I have reviewed the summary of the 1997 water quality monitoring of the three detention ponds conducted as a result of the "gray water event." This monitoring was required in a letter, dated January 3, 1997, from the Department to North Country Environmental Services (NCES). That letter also required the construction and sampling of monitor well MW-701. Data on well construction and analytical results have been submitted previously to the Department. I have the following comments.

## Detention Ponds

During 1997, the three interconnected stormwater detention ponds were monitored for coliform bacteria, VOCs and SDWA metals.

1. Coliform Analyses for Detention Pond 2. July and November analyses reported fecal coliform values higher than total coliform values. Scitest Laboratory Services, Inc. suggests that this can be explained because different water samples were used for each analysis, and the results reflect natural variation between samples.
2. Volatile Organic Compounds (VOCs). No VOCs were detected in three sampling rounds in Pond 1. Moderate to very low concentrations of three VOCs (MEK, acetone, 2-Hexanone) were reported in Ponds 2 and 3. (In addition, but not "counted," toluene at 1 ug/L was reported in April in Pond 2.) No VOCs were detected in the November samples from Ponds 2 and 3. Occurrences of VOCs have been attributed to leachate breakouts. NCES and Sanborn, Head & Associates, Inc. (SHA) suggest that the problem has been corrected with the installation of the membrane cap on Stage I. Monitoring will continue because the new Groundwater

TOWN:	Bethlehem
PROJECT:	NCES LP
LETTER/DATA/PERMIT/PA/OTHER:	

Management and Release Detection Permit GWP-198704033-B-003 (Permit) requires sampling for VOCs three times a year.

3. Drinking Water Metals. Five SDWA metals were detected. Low concentrations of arsenic (AGQS of 0.050 mg/L) at 0.004 mg/L and barium (AGQS of 2.0 mg/L) at 0.3 mg/L were reported only in July in Pond 3. Concentrations of cadmium (AGQS of 0.005 mg/L) at 0.0004 mg/L or less were reported only in November in Ponds 1 and 2, and in July and November in Pond 3. Chromium and lead have been detected most consistently. Low concentrations of chromium (AGQS of 0.1 mg/L) were reported for all three sampling rounds in Ponds 1 and 3, and for two rounds in Pond 2. In July the reported value for Pond 2 was 0.029 mg/L; all other values were 0.008 mg/L or less. Lead was detected in all three ponds for all three sampling rounds. Concentrations of lead (AGQS of 0.015 mg/L) increased during the year from a range of 0.003 to 0.008 mg/L in April to 0.011 to 0.021 mg/L in November.

SHA states that: "All concentrations of chromium and lead are below their surface water quality criteria of 0.050 mg/L established on the basis of protection of human health." In the 1996 Env-Ws 430 Surface Water Quality Regulations the limit for chromium is 50 mg/L, but there is no value listed for lead. (The 0.050 mg/L limit for lead was in the 1990 Env-Ws 432 regulations. The value is also in the 1992 DPHS Standards.) Jeff Andrews says that USEPA has 13 pages of comments relative to the 1996 Env-Ws 430 Regulations, and some change may have to be made with respect to lead.

In lieu of no lead value in the 1996 Regulations, it may be appropriate to refer to the AGQS value for lead of 0.015 mg/L. However, at NCES, stormwater in detention basins is not "normal" surface water. Jeff Andrews seemed to infer (*my conclusion*) that if no drinking water supply was in danger the application of AGQS might be questionable.

Perhaps more important, is the fact that concentrations of both chromium and lead are above background levels (as measured in monitor well MW-401). With respect to groundwater, Env-Ws 410.16(c) requires assessment monitoring if any listed constituent is above background value. In conclusion, this situation seems fuzzy to me.

Sampling for chromium and lead was inadvertently left out of the new Permit. The Department should require sampling for chromium and lead in April, July and November 1998 (ie, continue what is really assessment monitoring). Following review of those results the Department may choose to issue a revised Permit, and perhaps require additional action.

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### **Monitor Well MW-701**

In the January 3, 1997-letter to NCES, the Department requested the construction of a new monitor well (MW-701) at the outlet of detention Pond 2. The analytical results from this well could have been in the subject report, but were not included. However, these results have been submitted to the Department with other analytical data from the regular sampling rounds. Indicator parameters for three sampling rounds were within acceptable ranges. VOCs and SDWA Metals were not detected in two sampling rounds. This well has been added to the group of release detection wells in the new Permit.

### **NPDES Stormwater Permit**

This aspect is not in SWMB jurisdiction, but the old permit expired last September. According to the letter, to date, NCES has only submitted a Notice of Intent application to USEPA.

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cc: HWRB PM File