

MEM

North Country Environmental Services, Inc.



February 5, 2001

Mr. John Cotton  
Groundwater Management Permits Coordinator  
NH Department of Environmental Services  
Waste Management Division  
6 Hazen Drive  
Concord, NH 03301



3 Pitkin Court  
Montpelier, Vermont 05602

(802) 223-7221  
(802) 223-7128 Fax

**RE: North Country Environmental Services, Inc. Landfill - Bethlehem, New Hampshire  
Groundwater Permit No. GWP-198704033-B-003  
Triannual Groundwater Quality Monitoring - November 2000  
Response to NHDES Comments**

Dear Mr. Cotton:

This letter is sent to respond to your comments regarding the November 2000 water quality monitoring data for the North Country Environmental Services, Inc. (NCES) landfill. Your comments were provided in a January 4, 2001 letter.

The attached letter from Sanborn, Head & Associates provides a summary of the results and responses to your comments. In each case, water quality results discussed were well below the respective Ambient Groundwater Quality Standard.

Please give me a call if you have any questions.

Sincerely,

NORTH COUNTRY ENVIRONMENTAL SERVICES, INC.

David E. Adams, P.E., Sr. Project Manager  
Permits, Compliance & Engineering

TOWN: BETHLEHEM  
PROJECT: NCES STAGE III  
LETTER/DATA/PERMIT/FA/OTHER: \_\_\_\_\_

Enclosure

- cc: **Michael McCluskey, P.E., NHDES**  
Larry Lackey, North Country Environmental Services, Inc. (via email, w/o encl)  
Ted Reeves, North Country Environmental Services, Inc. (via email, w/o encl)  
Lenny Wing, North Country Environmental Services, Inc. (via email, w/o encl)  
Joe Gay, North Country Environmental Services, Inc. (via email, w/o encl)  
Al Sabino, North Country Environmental Services, Inc. (via email, w/o encl)  
Robert Banfield, North Country Environmental Services, Inc. (via email, w/o encl)  
R. Scott Shillaber, Sanborn, Head & Associates (via email, w/o encl)

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# Sanborn, Head & Associates

Consulting Engineers & Scientists

January 30, 2001  
File No.1003.1

Mr. David E. Adams  
North Country Environmental Services, Inc.  
3 Pitkin Court  
Montpelier, VT 05602



Re: November 2000 Water Quality Monitoring  
North Country Environmental Services, Inc. (NCES)  
Bethlehem, New Hampshire

Dear David:

At your request, Sanborn, Head & Associates, Inc. (SHA) has prepared this letter responding to comments regarding the November 2000 water quality monitoring data for the NCES facility which were provided in a January 4, 2001 letter from John Cotton of the New Hampshire Department of Environmental Services (NHDES). As noted in the aforementioned letter, the November monitoring results indicated first time detections of low concentrations of certain volatile organic compounds (VOCs) in several monitoring wells. Though the measured concentrations of the various constituents were well below the respective Ambient Groundwater Quality Standard (AGQS), NHDES has requested that an explanation for the occurrences of the VOCs be provided. NHDES comments as presented in the January 4, 2001 letter are provided below followed by our response.

- 1. VOCs were detected in release detection well MW-402U for the first time. The detections were 1,1-Dichloroethane at 3.5 µg/L, cis-1,2-Dichloroethene at 1.0 µg/L and 1,1,1-Trichloroethane at 1.1 µg/L.*

MW-402U is located near the northwest corner of Stage I. The screened interval for the well brackets the water table which is in upper glacial till in the area. Water table contours shown on Figure 9 of SHA's November 2000 "Request to Modify Release Detection Permit" indicate that MW-402U is downgradient of Phase IV, a portion of Phase III and a portion of the Stage I leachate handling area. As indicated in NHDES' letter, the reported concentrations of the detected VOCs are low and, in fact, are near the laboratory method detection limits. The source of the low concentrations of VOCs could be attributed to residual impacts from leachate breakouts that occurred in the past on landfill slopes or past leachate handling practices. The landfill upgradient of MW-402U was capped with a geomembrane in 1997, eliminating leachate breakouts. Leachate handling system practices were improved with the installation of additional controls and overhead leachate tanker loading as a result of the construction of the leachate consolidation system, further limiting the potential for releases. The April 2001 monitoring results for MW-402U should be reviewed to confirm the presence of VOCs and to note whether concentrations are increasing.

- 2. In release detection well MW-403L, 1,1-Dichloroethane was detected at 1.4 µg/L for the first time. The only other VOC ever detected in this well was Dichlorodifluoromethane (0.8 µg/L) in April 1999, and that was probably due to laboratory contamination.*

MW-403L is located to the northeast of MW-402 and to the north of Stage I. The well is also located downgradient of Stage I and the leachate handling area and the deeper well of a monitoring well couplet screened in stratified drift. The measured concentration of 1,1-Dichloroethane (1,1-DCA) is very low, near the detection limit, and is well below the AGQS of 81 micrograms per liter (µg/L). Similar to MW-402U, the presence of this VOC could be attributed to effects of past leachate breakouts or past leachate handling practices which have been addressed through capping and construction of the leachate consolidation system, respectively.

Paul M. Sanborn ■ Charles L. Head ■ R. Scott Shillaber  
Charles A. Crocetti ■ Mathew A. DiPilato ■ Daniel B. Carr ■ Duncan W. Wood

Sanborn, Head & Associates, Inc.

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3. *In release detection well MW-802, 1,1 Dichloroethane was detected at 4.9 µg/L, cis-1,2-Dichloroethene at 2.0 µg/L and Trichloroethene at 1.2 µg/L.*

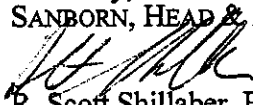
Monitoring well MW-802 is located in the Groundwater Management Zone (GMZ) established as a result of water quality impacts from the unlined landfill. The contents of the unlined landfill were excavated and placed in the double lined Stage I landfill as part of the development of Stage II. Water quality conditions have improved significantly in the time period since the unlined landfill was excavated. Recently, concentrations of VOCs measured in sample from the wells in the GMZ have fluctuated as residual contamination "flushes" from the system. MW-802 is located directly downgradient of the former location of the unlined landfill. The VOCs were detected at low concentrations consistent with concentrations detected in samples from other wells in the GMZ and their presence at low concentrations in the November 2000 sample may reflect variations in concentrations as water quality conditions improve.

4. *In new release detection well B-914U, 1,1-Dichloroethane was detected at 1.2 µg/L.*
5. *In new release detection well B-914L, Tetrahydrofuran was detected at 40.7 µg/L and 1,1-Dichloroethane was detected at 4.9 µg/L.*

Monitoring well couplet B-914U&L is located within the GMZ established for the unlined landfill. The VOCs detected in these wells were present at low concentrations below the respective AGQs. As was the case for well MW-802, the VOCs detected are consistent with VOCs detected in samples from other wells within the GMZ. Consistent with NHDES' requirement, we recommend that B-914L be sampled for analysis for VOCs during the April 2001 monitoring. The other wells in which VOCs were detected are to be sampled for analysis for VOCs in April 2001. The April 2001 results should be reviewed to note whether the concentrations of VOCs detected in the various wells are increasing.

We thank you for this opportunity to be of service. Should you have any questions regarding this letter, please contact the undersigned.

Sincerely,  
SANBORN, HEAD & ASSOCIATES, INC.

  
R. Scott Shillaber, P.E.  
Principal

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