

June 22, 1999



Mr. Bobby Lutfy
North Carolina Department of Environment
and Natural Resources
Division of Solid Waste Management
Solid Waste Section
P. O. Box 27687
Raleigh, North Carolina 27611-7687

Fac/Perm/Co ID #	Date	Doc ID#
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Re: Spring 1999 Semiannual Ground-Water Sampling Analytical Results
Winston-Salem Construction and Demolition Landfill (#34-12)
Forsyth County, North Carolina
HDR Project No. 00162-090-018

Dear Mr. Lutfy:

HDR Engineering, Inc. of the Carolinas (HDR) is hereby submitting, on behalf of the City of Winston-Salem Utilities Division (City), the ground-water analytical results for the Spring 1999 results of ground-water sampling at the C&D Landfill located in Forsyth County, North Carolina.

Ground-water samples were collected from on-site detection monitoring wells MW-1R, MW-2R, MW-4R, MW-5R, and MW-7 on June 2, 1999, for the eight RCRA metals and Appendix I volatile organic compound (VOC) analysis. Trip and equipment blanks were also included for QA/QC purposes. Field measurements of pH, specific conductance, and temperature were also recorded during pre-sampling well purging. These measurements were recorded on field forms, which have been attached to the Report of Laboratory Analysis. Ground-water samples were not collected from ground-water monitoring wells MW-3 and MW-6 during this sampling visit. Ground-water monitoring wells MW-3 and MW-6 are presently located within the proposed footprints of Phase II and Phase III of the landfill expansion plan. Approximately 15 to 20 feet of overburden has been removed from the vicinity of MW-3 leaving its wellhead inaccessible for sample collection. In addition, the well head of ground-water monitoring well MW-6 was found to be damaged during the sampling visit to the point that a bailer would not pass through to the water table. Both of these wells have been scheduled for permanent abandonment (in June 1999) in accordance with NCAC Title 15A, Subchapter 2C, Section .0100 abandonment procedures, and as approved by the Solid Waste Section. Replacements for these monitoring wells will also be installed outside the limits of future landfill construction at the time of the aforementioned abandonment. Well installation and abandonment records will be submitted to the Solid Waste Section upon completion.

Based on past ground-water flow characteristics for the site, ground-water monitoring well MW-1R is hydraulically upgradient of the landfill and is therefore considered as "background" for the site.

HDR Engineering, Inc.
of the Carolinas

Employee-owned

Suite 1400
128 S. Tryon Street
Charlotte, North Carolina
28202-5001

Telephone
704 338-6700
Fax
704 338-6760

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The metals arsenic, barium, chromium, and lead were detected in the ground water during this round of sampling. The concentrations detected were low and are reflective of the naturally-occurring trace metals typically present in the saprolite of this region. Lead in MW-1R, MW-4R, MW-5R, and MW-7 was detected at concentrations which slightly exceed the 2L ground-water standard of 0.015 mg/l. Likewise, chromium was detected in MW-1R, MW-4R, and MW-7 at concentrations which slightly exceed the 2L ground-water standard of 0.05 mg/l. Note that these exceedances occur in both the background well and the downgradient wells. As reflected by the Pre-sampling Well Purging forms, the presence of these trace metal detections is due to the slight lingering well turbidity in each well. ✓

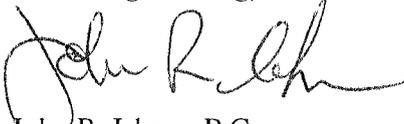
A trace of methylene chloride (dichloromethane) was detected in all monitoring wells, including background well MW-1R during this sampling event. The detection of methylene chloride is considered to be a probable laboratory contaminant, since this compound has never been detected prior to this event and was identified in laboratory blanks during routine QA/QC procedures. A trace of methylene chloride was also detected in the equipment blank. ✓

It is expected that turbidity will continue to decrease as purging and sampling of the wells continues. HDR plans to redevelop all ground-water monitoring wells prior to the next scheduled semiannual sampling event to reduce the effects of lingering well turbidity. The Report of Laboratory Analysis for this sampling event at the Winston-Salem C&D Landfill is attached to this letter (including the Chain-of-Custody Record and field purging forms). Table 1-1 is also attached to this report and summarizes the results of all sampling events performed to date at the landfill.

If you have any questions or comments concerning the information summarized in this letter or in the attached analytical data report, please do not hesitate to contact me at (704) 338-6832.

Sincerely,

HDR Engineering, Inc. of the Carolinas



John R. Isham, P.G.
Project Hydrogeologist

JRI/nt

Attachments: Table 1-1, Summary of Ground-Water Analytical Results
Report of Laboratory Analysis (w/Chain-of-Custody Record)
Pre-sampling Well Purging Forms
Phase I Ground-Water Monitoring Well Locations

cc: Ed Gibson, Winston-Salem Utilities Division