

MEMORANDUM

To: Interested Parties
Through: LeRoy Feusner, Administrator, Solid and Hazardous Waste Division
From: Bob Doctor, Program Manager, Solid Waste Permitting and Corrective Program
Date: October 21, 2005, Revised October 23, 2006
Re: Groundwater monitoring frequency and constituents at facilities determined to have inadequate groundwater monitoring systems.

This is a summary of the monitoring analyses that have been determined to be appropriate for facilities with inadequate monitoring networks. These analyses should generally be conducted at all facilities, unless a more stringent plan is already in place at the facility or there are other site specific considerations such as a long history of data, slow groundwater travel, etc. For permitted facilities and those with approved monitoring plans, DEQ staff should review the currently approved plan before sending out a letter with sampling requirements. In the near future we will work with all facilities to ensure that their monitoring plans include both the baseline constituents (Chapter 2, Section 6(b)(ii) (D)(I)) and Chapter 2, Appendix A constituents. No distinctions in the list of analytes will be made for Type I and Type II facilities. The short list of constituents (Chapter 2, Section 6(b)(ii) (D)(II)) will no longer be considered adequate. The baseline list of constituents from Chapter 2, Section 6(b)(ii) (D)(I) includes:

pH, Total Dissolved Solids (TDS), Chemical Oxygen Demand (COD), Total Organic Carbon (TOC), Ammonia as N, Nitrate as N, Bicarbonate, Carbonate, Chloride, Fluoride, Calcium, Magnesium, Potassium, Sodium, Sulfate, Copper, Iron, Manganese, Nickel, Zinc, Arsenic, Barium, Cadmium, Chromium, Cyanide, Lead, Mercury, Selenium, and Silver. Water temperature, specific conductance, pH, and static water level measurements shall also be taken in the field during each monitoring event. Groundwater samples shall not be field filtered prior to laboratory analysis.

Laboratory analytical data needs to be reported at the lowest concentration level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions that are available to the facility. In addition, analytical detection limits must be at least as low as, and preferably lower than, maximum contaminant levels (MCLs) for those constituents which have established MCLs.

Sampling will need to be conducted four (4) times per year (quarterly) at facilities that currently have no monitoring wells or less than three wells, but again, site specific details for permitted landfills with approved plans should be reviewed before making any changes. At the first sampling event, samples should be analyzed for the baseline constituents and the Appendix A list. At the second and subsequent sampling events, samples should be analyzed for the baseline constituents and the Appendix A list if any Appendix A constituent not already in the baseline list has been detected.

Table of sampling requirements:

Constituent List	1st Sampling Event	2nd Sampling Event	3rd Sampling Event	4th Sampling Event
Baseline	Yes	Yes	Yes	Yes
Appendix A	Yes	Add any Appendix A metal detected and add all Appendix A VOCs if any Appendix A VOC is detected	Add any Appendix A metal detected and add all Appendix A VOCs if any Appendix A VOC is detected	Add any Appendix A metal detected and add all Appendix A VOCs if any Appendix A VOC is detected

END OF MEMORANDUM