

State of Wisconsin
Department of Natural Resources

SUBJECT: Coordination of Groundwater Contamination Investigations and Regulated Monitoring of Potable Wells

REASON FOR CHANGE: Editorial

Over time, the Department becomes aware of contamination of our groundwater resources. This contamination can be the result of a natural occurrence as is the case with radium in certain portions of the state, or it can be the result of human activities such as a chemical spill. Our first knowledge of contamination in groundwater often occurs when a drinking water well is impacted.

When a public or private well is impacted by contamination and the suspected source of contamination is a spill, a solid or liquid waste disposal site or some other Department regulated activity, there may be more than one Department program involved. Staff from the involved programs must manage these cases while being mindful of the needs and responsibilities of each program. The following is a brief summary of program clean-up responsibilities.

The Remediation and Redevelopment (RR) program is designated to address contamination problems throughout the state via a single, consolidated clean-up approach. The RR program is responsible for overseeing cleanup activities in the following situations:

- A. Hazardous waste facilities currently being cleaned up in accordance with corrective action or closure authorities.
- B. Closed solid waste landfills or other closed solid waste facilities currently being cleaned up in accordance with solid waste authorities.
- C. Sediment cleanups.
- D. Closed wastewater facilities currently being cleaned up in accordance with wastewater authorities.
- E. Sites, facilities or landfills currently being cleaned up in accordance with environmental repair, hazardous substance spills or federal Superfund authorities.
- F. Sites or facilities currently being cleaned up in accordance with land recycling authorities.
- G. Abandoned containers.
- H. Dry cleaners in accordance with the Dry Cleaner Reimbursement program.

For these areas of responsibility, the RR program staff is to serve as the lead on the cleanup aspects with staff from different programs to address issues related to uses (e.g., water supplies) and methods to implement remedies (e.g., wastewater or air permit).

The Waste Management program is responsible for cleanup activities at active solid waste facilities, and the Watershed program is responsible for cleanup activities at active wastewater facilities.

To minimize overlap and duplication of effort, it is important for all programs to be aware of each other's responsibilities. Open and frequent communication must be maintained among the programs. Following is guidance to be used by Department staff to maintain communication and awareness across program lines. General guidance is also provided for response to water supply well contamination incidents.

GROUNDWATER CONTAMINATION INCIDENT PROCEDURES. It is important that Department staff work together on groundwater investigations and staff understand lead program responsibilities. Those involved in groundwater contamination incidents should meet as needed to coordinate the Department's efforts. Those working on a specific incident should receive a copy of all Department correspondence related to the incident if requested. All programs with potential

(more)

SECRETARY'S DIRECTIVE PSH

Distribution:

Date 1-11-06

All Manual Holders

Special Instructions:

Rescinds and replaces M.C. 4822.1 (10-16-02)
(Underscoring indicates hyperlinks)

involvement in a contamination incident must be apprised of the investigation in its earliest stages and when there are significant developments. The RR program tracking system (BRRTS) is a resource for information on the status of contamination sites.

1. **Initial Contact.** If a Department staff person receives a complaint, water well sample analytical data, or any other information about a possible groundwater contamination incident, that person should record as much information about the situation as possible. The information to be recorded should include: the contact person, the location, and nature of the incident. This information should then be passed on to the appropriate regional team supervisor or water basin leader for staff assignment. The table below lists both central office and regional contacts for various contamination sources.

Contamination Incident Related to	Regional Staff Contact	Central Office Contact
a. Public or Private water supply well	Water Basin Leader and Regional Water Expert	Public Water Supply Section Chief (public well) or Private Water Supply Section Chief (private well)
b. Active Landfill	Waste Team Supervisor	Environmental Monitoring Team Leader
c. Closed Landfill	RR Team Supervisor	Technical Resources Section Chief*
d. Hazardous waste, corrective action and closures	RR Team Supervisor	Technical Resources Section Chief*
e. Abandoned barrels	RR Spill Coordinator	Hazardous Spill Team Leader*
f. Spills follow-up /land recycling actions, environmental repair.	RR Team Supervisor	
g. Leaking underground storage tank	RR Team Supervisor	
h. Pesticides	RR Team Supervisor	
i. Septage and industrial and municipal land spreading and disposal	Water Basin Leader and Regional Water Expert	Permits Process and Facility Management Section Chief
j. Municipal or industrial wastewater land treatment/disposal	Water Basin Leader and Regional Water Expert	Wastewater Permits and Pretreatment Section Chief
k. Animal Waste	Water Basin Leader and Regional Water Expert	Runoff Management Section Chief
l. General groundwater quality or multiple contaminant source	Regional Drinking Water Specialists	Groundwater Section Chief
m. Closed Wastewater Facility	RR Team Supervisor	
n. Dry Cleaner Sites	RR Team Supervisor	Dry Cleaner Team Leader*
o. No known or suspected source of contamination identified	Regional Drinking Water Specialist	

* If necessary, as determined by the RR regional team supervisor.

2. **Initial Evaluation of Contamination** A staff person from the program responsible for the known or suspected source of contamination should make an initial evaluation of the reported situation to gather further information. If the suspected source of contamination is regulated by another state agency the initial evaluation should be coordinated with that agency (see 5. Contacts with Other State Agencies). In cases where water supply wells are impacted and there is no known or suspected source of contamination identified, the regional drinking water specialist will work with the other program staff to determine how to proceed. Sampling of water supply wells shall follow the guidance in the WATER SUPPLY WELL SAMPLING section of this manual code. Well owners and occupants shall be notified of drinking water sample analytical results as described under WELL OWNER NOTIFICATION in this manual code.

3. **Program Responsibilities.** After the initial site evaluation, appropriate Department staff will meet to discuss the next steps in the incident investigation, if any. This might include regional or central office program staff or supervisory staff from multiple programs or bureaus. If contamination does not appear to be present, and if the results of well sampling indicate no groundwater contamination is present, it may be possible to close the incident with no further investigation. If further work is warranted, the responsible program should outline the scope of the investigation and determine the roles of the different programs and bureaus. The water basin leader or team supervisor or the appropriate central office section chief may have to assign lead responsibility and request legal and information support from other programs.
4. **Coordination Between Programs.** Those staff assigned to a particular incident should meet as needed to coordinate the investigation and resolve any issues or questions that arise. The supervisors of all programs involved in an investigation will get a copy of all correspondence related to the investigation if they request it. Where problems involving lack of coordination between programs in the region are encountered, regional air/waste and water leaders should be working with the appropriate lead program team supervisor and bureau director. For most cases, the RR program has the lead responsibility to address contamination cleanup. The Bureau of Drinking Water and Groundwater - Groundwater Section Chief will be consulted regarding lack of coordination between bureaus.
5. **Contacts with other State Agencies.** When the known or suspected source of contamination is regulated by another state agency, that agency must be informed of the investigation and invited to participate. In many cases, the regulations of that agency may have been violated. Enforcement actions in those cases should be a cooperative effort between the Department and the other regulatory agency. Following are the other regulatory agencies that are required to have regulations to comply with ch. [160](#), Wis. Stats.:

<u>Type of Source</u>	<u>Agency</u>	<u>Administrative Rules</u>
1. Salt storage piles	Department of Transportation	TRANS 277
2. Fertilizer bulk storage	Department of Agriculture, Trade and Consumer Protection (DATCP)	ATCP 31 , ATCP 32
3. Pesticide bulk storage	DATCP	ATCP 31 , ATCP 33
4. Pesticide use and handling	DATCP	ATCP 31 , ATCP 29 , ATCP 30
5. Agricultural Chemical Cleanup	DATCP	ATCP 35
6. Septic tank systems	Department of Commerce (COMM)	COMM 82 , COMM 83
7. Flammable and combustible liquid storage	COMM	COMM 10
8. Petroleum Storage Tanks	COMM	COMM 46 , COMM 47

In general, the above agencies will have the lead to require operational and structural preventive measures in accordance with their rules. Department authorities may be used to supplement another agency's authorities for preventive measures when agreeable to the other agency. See M.C. [1621.1](#) for Department of Transportation liaison. The Department will notify DATCP of pesticide contamination incidents per the Memorandum of Understanding with DATCP. Furthermore, when the Department is the lead on a pesticide contamination case, we will provide response action documents for DATCP comment.

Where problems involving lack of coordination between agencies are encountered, the Bureau of Drinking Water and Groundwater - Groundwater Section Chief shall be consulted.

DRINKING WATER AND GROUNDWATER STANDARDS AND HEALTH ADVISORY LEVELS

1. **Drinking Water and Groundwater Standards.** State Drinking Water Standards are established in ch. [NR 809](#), Wis. Adm. Code, and state Groundwater Quality Standards are established in ch. [NR 140](#), Wis. Adm. Code. A list of NR 809 drinking water maximum contaminant levels (MCLs) and health based NR 140 groundwater quality Enforcement Standards, applicable to drinking water and groundwater, can be found at www.dnr.state.wi.us/org/water/dwg/index.htm (*Health Standards/Advisories*).
2. **Health Advisory Levels (HALs).** Health advisory levels are established by the United States Environmental Protection Agency (U.S. EPA) or by the WI Department of Health and Family Services (DHFS). Where a substance of health concern is detected in a drinking water well or groundwater and there is no ch. [NR 809](#), Wis. Adm. Code, drinking water standard or ch. [NR 140](#), Wis. Adm. Code, groundwater quality standard, use the applicable health advisory level (HAL) included in the Drinking Water and Groundwater Standards & Health Advisory Levels Table at www.dnr.state.wi.us/org/water/dwg/index.htm (*Health Standards/Advisories*) or contact the Bureau of Drinking Water and Groundwater – Public Water Supply Section Chief.
3. **Substances detected and no Drinking Water/Groundwater Standards or HAL established.** If a substance is detected in drinking water or groundwater and there is no established ch. [NR 809](#), Wis. Adm. Code, drinking water standard, ch. [NR 140](#), Wis. Adm. Code, groundwater quality standard or HAL, proceed as follows:
 - A. If a public drinking water well is affected, the Bureau of Drinking Water and Groundwater – Public Water Supply Section Chief shall be contacted to determine if there is a need for a new health advisory level (HAL) which will be established by DHFS. If a private drinking water well is affected, the Bureau of Drinking Water and Groundwater - Private Water Supply Section Chief shall be contacted to determine if there is a need for a new HAL. The new HAL will be used as guidance for advising the well owner about consumption of the well water, and it may also be used as a site specific cleanup goal in selecting the type and duration of a ch. [NR 140](#), Wis. Adm. Code, groundwater remedy.
 - B. If a drinking water well is not affected, the Bureau of Drinking Water and Groundwater - Groundwater Section Chief shall be contacted to determine if there is a need for a new HAL, which will be established by DHFS. The new HAL may be used as a site specific cleanup goal in selecting the type and duration of a ch. [NR 140](#), Wis. Adm. Code, groundwater remedy.

To the maximum extent possible, contacts with the DHFS Division of Health for the purposes of determining the health risk of a compound found in a drinking water supply well, shall be made through the Bureau of Drinking Water and Groundwater. Contacts with the U. S. EPA should also be made through the Bureau of Drinking Water and Groundwater. This procedure may be modified in emergency cases where Bureau of Drinking Water and Groundwater staff are unavailable. If a formal risk assessment is needed for a substance, the Water Division Administrator is responsible for requesting the risk assessment from the DHFS Division of Health and assigning its priority. All cases of known or suspected waterborne disease should be brought to the attention of the local or county health officials and the DHFS Division of Public Health - Bureau of Communicable Diseases (608-267-9003), for possible investigation. The regional drinking water specialist will make these contacts.

The Bureau of Drinking Water and Groundwater - Groundwater Section Chief shall be notified when substances are found in groundwater for which there is no existing ch. [NR 140](#), Wis. Adm. Code, groundwater standard. The Department has a statutory obligation to identify and prioritize substances for groundwater standards development and to inform other regulatory agencies when we detect a substance in groundwater.

WATER SUPPLY WELL SAMPLING.

1. **Program Responsibility** Department staff sampling water supply wells should consult with the regional drinking water specialists or drinking water experts about sample collection procedures and specific parameters to be monitored. In cases where water supply wells are impacted and there is no known or suspected source of contamination identified, if regional drinking water staff sample water supply wells, they should inform the appropriate regional RR or waste management team supervisor if sampling results indicate a likely source of contamination.

2. **Well Inventory.** The necessary inventory and laboratory forms must be filled out to assure that data is captured in the Department's data systems. Inventorying a well is important the first time a private or public drinking water well is sampled. If there is no computerized inventory of the well or if computer records are not current, Department staff collecting a sample shall record the name and address of the current well owner and occupant and shall complete a Groundwater Monitoring Inventory Form ([Form 3300-067](#)) or other approved form. If not already assigned, a Wisconsin Unique Well Number (WUWN) shall be assigned to all drinking water wells which are sampled by Department staff or which are submitted to the Department as part of a regulatory program. Wells shall be labeled in accordance with written procedures from the Bureau of Drinking Water and Groundwater.
3. **Sample Collection/Preservation.** Staff shall use the collection and preservation procedures contained in current Department guidance and administrative rules. This guidance includes the Department's "Groundwater Sampling Desk Reference" and the "Groundwater Sampling Field Manual." Where these manuals don't cover or inadequately cover a particular situation, the Bureau of Integrated Science Services should be consulted for guidance. For enforcement actions, or where otherwise necessary, field work should be well documented and chain of custody procedures should be followed.
4. **Sample Analysis.** The State Laboratory of Hygiene is certified by the U. S. EPA for analyses done under the Safe Drinking Water Act and by the Department under ch. [NR 149](#), Wis. Adm. Code. Prior approval by the Bureau of Integrated Science Services is required per M.C. [4810.1](#) before use of other laboratory facilities for any projects funded by the Department. Laboratories for all but bacteriological, radiochemistry and Superfund analyses must be certified or registered under ch. [NR 149](#), Wis. Adm. Code. Laboratories for bacteriological analyses are approved or certified by the Department of Agriculture, Trade and Consumer Protection (DATCP). Laboratories performing radiological analysis of drinking water samples must be approved (or "accepted") by the U.S. EPA. The U.S. EPA oversees Superfund sampling and analyses.
5. **Laboratory Data Quality Assurance.** The lead program may discuss with the Bureau of Integrated Science Services - Laboratory Coordinator the need for review of the quality assurance data from reporting laboratories. If it is necessary to review the quality assurance data and to release data before the quality assurance review is complete (i.e., because of an imminent health threat or disclosure under an open records law request), the following disclaimer should be included: "The Department has not had an opportunity to review the quality assurance data (requested from/supplied by) the laboratory and emphasizes, therefore, that the results are preliminary." If the quality assurance review indicates that the quality of the data is not acceptable, the data should be so identified and any release of the data should be properly qualified. If data are unacceptable, it may be necessary to collect new samples for additional analysis.

WELL OWNER NOTIFICATION

1. **Program Responsibility.** Section [160.27\(6\)](#), Wis. Stats., provides that "The department shall notify the owner of any potable well and the occupant of any residence served by that well of the results of any monitoring data it obtains from samples of water from that well." Regional drinking water/groundwater staff have the lead responsibility for communicating information to well owners and occupants of residences concerning the safety and suitability of the water supply for drinking water. Sample analytical results for substances which may be a health concern or may adversely affect the suitability of the well as a drinking water source, whether or not there is a health advisory level or formal standard established in administrative rule for that substance, shall be interpreted by regional drinking water/groundwater staff. Staff are encouraged to develop computerized mechanisms for automatically generating sample data summaries and transmittal letters for owners and occupants as provided by these policies and procedures.
2. **Check Samples.** It is in the interest of the Department and all affected parties to assure that Department actions and advice are based on accurate and reliable data. Therefore, normal policy for Department sponsored groundwater investigations will be to rely upon an initial sample plus at least one follow-up check sample before a well owner is advised to discontinue use of the well water. If a private well has previously had groundwater standard exceedances, check samples are not necessary.

3. **Notification of Well Owner & Occupants.** The sample results from Department sampling of water supply wells should be sent to the homeowner and occupant within a reasonable time, but not exceeding 20 working days, following receipt of the results. Environmental monitoring data and related correspondence are public records under Wisconsin law unless the data was obtained under a written agreement of confidentiality approved in advance by the Bureau of Legal Services.
- A. The following applies to drinking water well samples collected by Department staff from any program:
- 1) If no contamination is apparent, and if all sample results are less than any applicable ch. [NR 809](#), Wis. Adm. Code, Maximum Contaminant Level (MCL), ch. [NR 140](#), Wis. Adm. Code, groundwater enforcement standard or established HAL, the sample results should be transmitted in writing to the well owner and occupant within a reasonable time not to exceed 20 working days, following receipt of the results. The Department employee collecting the sample and first line supervisor are responsible for transmitting the results unless this responsibility has been specifically assigned to someone else. The water basin leader will receive a copy of the transmittal letter.
 - 2) For public water systems where there is an applicable MCL, the check sampling, subsequent investigation sampling and public notification requirements of ch. [NR 809](#), Wis. Adm. Code, shall be followed. If a HAL is exceeded in a public water system, the Bureau of Drinking Water and Groundwater shall be consulted for case-by-case guidance on check sampling and the content of the letter transmitting the data to the well owner.
 - 3) For private wells, if an MCL, ch. [NR 140](#), Wis. Adm. Code, groundwater enforcement standard or HAL is exceeded or other substance of concern is detected in an initial sample, the program staff receiving the information shall forward the results to the appropriate regional drinking water/groundwater specialist. The well owner and occupant will be notified verbally and in writing by regional drinking water/groundwater staff within 48 hours. A copy of the transmittal letter shall be sent to the referring program.

The transmittal shall normally include the following information: "If this concentration of (name of contaminant) is confirmed by subsequent sampling, we will be advising you not to use the water for drinking or food preparation purposes. As an extra precautionary measure you may wish to consider an alternative water supply at this time." Where health problems have been reported or where results indicate an acute risk, the following sentence should be substituted for the second sentence: "Although confirmation sampling hasn't yet been completed, we recommend that an alternate safe source of drinking water be used." The language suggested above may be modified provided that the same meaning is conveyed.

Some compounds, like benzene, present inhalation and skin contact concerns at higher concentrations. There may be concern about skin or inhalation contact. The Bureau of Drinking Water and Groundwater should be consulted in these cases.

Once the results of confirmation sampling are available, the program staff receiving the information shall provide the sample data to drinking water/groundwater staff. After consulting with referring program staff, the regional drinking water and groundwater program expert, sample results and interpretation will be transmitted by the regional drinking water/groundwater specialist to the owner and occupant as soon as practicable following receipt of the sample results. The water basin leader, the regional drinking water/groundwater expert, the referring program and Bureau of Drinking Water and Groundwater will receive a copy of all Department correspondence.

- B. The following applies to drinking water well samples collected by others and provided to the Department as part of a regulatory program that issues permits or licenses (e.g. waste management program and wastewater land treatment/disposal system monitoring):
- 1) The program to which monitoring results are submitted shall maintain a list of private well owners and occupants and their addresses which their regulated facilities are required to monitor. Lists shall be available to drinking water staff. All private wells regulated and monitored by the Department are on the Department's Groundwater Retrieval Network computer system. Each program's regulated facilities shall be made aware of the requirements of ss. [NR 140.24\(1\)\(a\)](#) and [NR 140.26\(1\)\(a\)](#), Wis. Stats., and any other program specific requirements regarding notification of the Department when a groundwater enforcement standard or preventive

action limit is attained or exceeded.

- 2) If no contamination is detected, the “no detect” sample results should be transmitted in writing to the well owner and occupant within a reasonable time, but not exceeding 20 days, following receipt of the results. The Department program to which the monitoring results are submitted is responsible for transmitting the results unless this responsibility has been specifically assigned to someone else. The water basin leader and regional drinking water/groundwater specialist will receive a copy of the transmittal letter.
- 3) If a ch. [NR 809](#), Wis. Adm. Code, drinking water MCL, ch. [NR 140](#), Wis. Adm. Code, groundwater public health Enforcement Standard or HAL is exceeded in the results from a drinking water well sample submitted to the Department, the program staff receiving the information will transmit the results to the appropriate water basin leader and regional drinking water/groundwater specialist. The well owner and occupant shall be notified verbally and in writing as described in A. 3) above.
- 4) If results submitted to the Department show multiple contaminants detected in a well, regardless of whether the concentrations are below or above established drinking water MCLs, ch. [NR 140](#), Wis. Adm. Code, groundwater public health Enforcement Standards or HALs, the results shall be transmitted by the recipient to the appropriate water basin leader and the regional drinking water/groundwater specialist. The well owner and occupant shall be notified verbally and in writing as described in A. 3) above. Additionally, the same procedure shall be used when any “substance of concern” (i.e., a substance not normally found in drinking water and for which there is no established drinking water or groundwater standard or HAL) is detected in the well water.
- 5) For drinking water wells which are routinely monitored as part of a regulatory program, if routine monitoring results do not indicate concentrations above a HAL or other concentration of concern, sample results may be summarized and provided to the well owner and occupant at an established routine frequency rather than every time sample results are obtained. If a well is already contaminated, the owner and occupant have been advised, and the routine monitoring results do not change the advice which has been previously provided to the owner and occupant, the results may also be summarized and transmitted at an established routine frequency. In no case shall the results be furnished to the owner and occupant less frequently than once per year. A copy of all letters to well owners and occupants with sampling results should be sent to the water basin leader. Staff should be aware of the Department's obligation and commitment to comply with the state open records law if the owner or occupant requests sample results on a more frequent basis.