MISSISSIPPI STATE UNIVERSITY EXTENSION

Protecting Your Private Well:

An Environmental Self-Assessment

Before Completing Your Self-Assessment

This self-assessment of your private well is an important tool that allows you to evaluate conditions around your home that could threaten your drinking water quality. Please read this introductory information carefully before completing your self-assessment. You should complete this self-assessment if a private well supplies water to your home or other structure where people or animals drink the water.

Your responses to this self-assessment are for your use. Although completing this self-assessment is voluntary, taking a few minutes to respond to it may help identify activities that could lead to water quality problems. You are encouraged to involve your spouse and/or children in completing your self-assessment. If you need other help or follow-up information, contact your local MSU Extension office.

Protecting Your Private Well

Most private wells in rural Mississippi have good, clean water. But many day-to-day activities around your home or farm can affect the quality of your drinking water, your family's health, and the health of pets and/or livestock. As the owner of a private well, it is your responsibility to see that your well is properly maintained and that your water supply is free of harmful contaminants.

While chances are good your well is free of contaminants, you should not automatically assume this is true, especially if your well is in poor condition or if it is close to potential contamination sources. For example, pollutants may enter your well through a cracked well casing. Harmful bacteria and nitrates may enter your drinking water from septic tanks or animal waste systems that are not operating properly or are too close to the well.

Other day-to-day activities can contaminate domestic water supplies. Even a small spill where pesticides or fertilizers are mixed near a well or a fuel spill where equipment is refueled may contaminate water. An abandoned, unsealed well may give an opening for contaminants to enter the groundwater, and it poses a special safety threat to children and animals. Pesticides or other pollutants may enter drinking water by back-siphoning, a process that produces a vacuum and reverses the flow in a water line (much like sucking through a drinking straw). How you store and dispose of products like leftover paint, solvents, pesticides, used oil and batteries, and other hazardous products also may contaminate your water supply.

Prevention is the key to protecting your drinking water. Once the groundwater supplying your well is contaminated, the problem is not easy to correct. Your only options may be to treat the water, drill a new well, or get your water from another source. Your contaminated well also could affect a neighbor's well and pose a health threat to others as well as to you or your family.

Well Distance Regulations

To protect your drinking water quality, keep all contamination sources as far away as possible from your well. The Mississippi State Department of Health requires that a septic tank be at least 50 feet from a private well. A septic tank drain field must be at least 100 feet from a well. All other pollution sources, such as animal wastes, pesticides, and other contaminants, should be at least 100 feet from a well. Any uncapped, abandoned well on your property also must be properly sealed. Activities that violate these requirements are highlighted in bold type in this self-assessment. Before installing a new well or septic system, check with your county health department for any additional requirements.

Always keep in mind that, although these requirements are important, they should not be the only factors you consider when making decisions to protect drinking water quality. Many unregulated activities around your home or on your farm can affect water quality. Consider all required well separation distances as *minimum safe distances,* and locate your septic system and all other pollution sources farther from your well if possible.

If you need more information on well distance regulations, contact your county health department or the Mississippi State Department of Health. If you have questions about the quality of your water, contact your county health department or your local MSU Extension office. For guidelines on installing a new well or sealing an abandoned well, contact a licensed well driller or the Mississippi Department of Environmental Quality. The end of this publication tells you how to contact these agencies.

Understanding Your Self-Assessment

Your private well is least likely to be contaminated if you use as many of the low-risk practices listed in this self-assessment as you can reasonably follow. You may not be able to use all low-risk practices, but use as many as practical to protect your water quality. As you complete your self-assessment, do not be alarmed if you check several or even many high-risk statements. That does not automatically mean you have water quality problems. It could, however, tell you that your attention may be needed to avoid potential problems.

Directions

This self-assessment is a series of three-part statements, each with a **low, medium, and high ranking**. This ranking relates to the level of risk to your drinking water quality or other environmental risks associated with that activity or condition. First, read **all** statements in each set, then check the ranking that best describes conditions around your home or farm. Remember, this self-assessment is for your information, and your goal is to apply as many low-risk practices as you can. It is possible that you may be unfamiliar with some of the components of the statements. The person or agency to contact, in order to accurately complete the assessment, is listed directly after the sets of statements.

Level of Risk

- □ **Low**: Your well is more than 100 feet uphill from all pollution sources, such as a septic system, animal wastes, pesticides, fertilizers, petroleum products, and other sources.
- □ **Medium:** Your well is more than 100 feet on grade with or slightly downhill from pollution sources.
- □ **High:** Your well **does not meet minimum required separation distances from pollution sources*** or is less than 50 feet from a septic tank or less than 100 feet from a septic tank drain field, animal wastes, pesticides, and other pollution sources.

*** In addition to being a high-risk practice, this activity violates Mississippi health or water quality laws.**

- □ **Low:** All runoff water is channeled away before it reaches the well. The ground around the base of the well is mounded to keep rainwater from pooling.
- □ **Medium:** Most uphill runoff water is channeled away from your well. The ground around the base of the well is flat.
- □ **High:** No uphill runoff water is channeled away from your well. The ground around the well is settled, and runoff from livestock wastes, pesticide and fertilizer mixing areas, fuel storage areas, or the farm dump reaches or could reach the well.

- □ **Low:** Your well casing (the pipe that fills the bore hole of a well) has no visible holes or cracks. The casing has a tight-fitting cap and a screened vent.
- □ **Medium:** You can see no holes or cracks inside the well casing.
- □ **High:** You can see holes or cracks in the well casing or you can move it by pushing against it. The well cap is loose or missing.

- □ **Low:** The top of your well casing is above the 100-year flood plain in your area, or is at least 18 inches above ground level.
- □ **Medium:** The top of your well casing is more than 12 inches above ground level.
- □ **High:** The top of your well casing is less than 8 inches above ground level or is below ground level in a pit or basement.

- □ **Low:** Your well is less than 20 years old.
- □ **Medium**: Your well is 20 to 50 years old.
- □ **High:** Your well is more than 50 years old.

□ **Low:** Your well is a drilled type installed by a qualified well driller.

□ **Medium:** Your well is driven-point (sand point) type installed by a qualified well driller.

□ **High:** Your well is a dug type constructed by hand.

□ **Low:** There are no abandoned or unused wells near your home or on your farm.

□ **Medium:** An abandoned, sealed well is located in a field away from your home.

□ **High**: **An abandoned, uncapped well is located near your home or on your farm or property.***

*** In addition to being a high-risk practice, this activity violates Mississippi health or water quality laws.**

□ **Low:** No pesticides, paints, chemicals, used batteries, petroleum products, or other hazardous products are stored in or around your well house. The area also is free of clutter.

□ **Medium:** You use your well house to store some materials, but not pesticides, paints, chemicals, used batteries, or petroleum products.

□ **High:** You use your well house as a general storage area or to store pesticides and other hazardous products, or you don't know if any of these products are stored in the well house.

□ **Low:** You test your well water regularly. Bacteria, nitrate, and other tests indicate good water quality.

□ **Medium:** You test your well water occasionally. Bacteria, nitrate, or other tests don't always meet water quality standards.

□ **High:** No well water testing is done. Water is discolored after a rainstorm. Water also changes in color, clearness, odor, or taste.

□ **Low:** You have check valves and/or air gaps on all faucets with hose connections to keep contaminated water from being accidentally sucked into your water supply by reverse flow. There is a check valve on well pump discharge plumbing.

□ **Medium:** Air gaps are installed/used on some faucets. You usually make sure no hoses attached to faucets are left lying on the ground where they could become submerged in contaminated drain water or rainwater.

□ **High:** No air gap on hoses. You also leave hoses attached to faucets lying on the ground where they could be submerged in contaminated drain water or rainwater.

□ **Low:** Your well is built in clay or fine-textured soils where the water table (the point where you normally reach underground water) is more than 20 feet below the ground surface.

□ **Medium:** Your well is built in loamy or medium-textured soils where the water table is more than 20 feet below the ground surface.

□ **High:** Your well is built in sandy, coarse-textured soils where the water table is less than 20 feet below the ground surface.

Well geology information may be obtained through your licensed well driller and/or the Mississippi Department of Environmental Quality.

□ **Low:** The bottom of your well casing extends 50 feet or more into the water table (the point where you normally reach underground water).

□ **Medium:** The bottom of your well casing extends more than 10 feet but less than 50 feet into the water table.

□ **High:** The bottom of your well casing extends 10 feet or less into the water table.

Water level information may be obtained through your licensed well driller and/or the Mississippi Department of Environmental Quality.

For More Information

Well distance regulations:

Your county health department

https://msdh.ms.gov/msdhsite/_static/19,0,166.html

or

Mississippi State Department of Health
Office of Environmental Health
P.O. Box 1700
Jackson, MS 39215-1700
(601) 576-7690
msdh.ms.gov

Well construction guidelines or sealing an abandoned well:

A licensed well driller

or

Mississippi Department of Environmental Quality
Office of Land and Water Resources
P.O. Box 2309
Jackson, MS 39225
(601) 961-5210
mdeq.ms.gov

Questions about your water quality:

Your county health department or your local MSU Extension office

For other information on protecting your private well, contact your local MSU Extension office.

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