



## Natural Resources Conservation Service

### CONSERVATION PRACTICE STANDARD

## GROUNDWATER TESTING

### CODE 355

(no)

#### DEFINITION

Testing the physical, biological, and chemical quality of groundwater from a water well or spring.

#### PURPOSE

This practice is used to accomplish the following purpose:

- To determine the suitability of a groundwater supply source for livestock watering, irrigation, wildlife, or other agricultural uses.

#### CONDITIONS WHERE PRACTICE APPLIES

This practice applies to agricultural groundwater supply sources potentially not suitable for its intended use, or is susceptible to contamination.

This practice does not apply to domestic or public groundwater supply sources, monitoring wells, injection wells, temporary test wells, or piezometers.

#### CRITERIA

##### General Criteria Applicable to all Purposes

Select the parameters for testing consistent with the intended use or concerns identified with the well or spring.

Use sampling and testing procedures that comply with the Environmental Protection Agency's "Manual of Methods for Chemical Analysis of Water and Wastes."

#### CONSIDERATIONS

Consider using a computerized total farm record-keeping system for ease of data input, analysis, and retrieval of testing results.

#### PLANS AND SPECIFICATIONS

Prepare plans and specifications for groundwater testing that describes the requirements for applying the practice to achieve the intended purpose. Include the following:

- Document the location, depth, date, and time of sample collection, and depth of supply.
- Document aquifer characteristics, geology, and history of site relative to sources of potential contamination, such as, surface water, septic systems, chemical storage facilities, landfills, roads, animal waste storage or treatment facilities, or naturally occurring sources of contamination.
- Document the construction method used to install the well or spring development.

- Include a description of the collection process, storing, transporting, and testing samples, and the reporting of test results.

## **OPERATION AND MAINTENANCE**

Maintain the water test records for the design life of the well or spring. Include the following items as part of the water test records:

- Sample site location by ground coordinates, such as by Global Positioning System (GPS), or other suitable method
- Name and title of person who collected samples
- Date and time of sample collection
- Planned use of the water
- Depth interval where sample was taken
- Date and time of water sampling
- Type of sampler and volume of sample
- Standard collection procedure used
- Date of water quality analyses
- Name and address of laboratory that performed analyses
- Parameters tested
- Schedule of additional testing, if required by the applicable water quality standard
- Records to evaluate trends and the effects of any remedial actions to produce water of quality suitable for the intended purpose
- Observations of well or spring condition at time of sampling
- Installation date of well or spring development
- Other records as required by regulations

## **REFERENCES**

U.S. Environmental Protection Agency. 1983. Manual of Methods for Chemical Analysis of Water and Wastes, EPA/600/4 79/020, (552 p.). Office of Research and Development, Washington, D.C.