

Drinking Water and Groundwater Protection Division

**Source Testing Review Application**

This form is to be completed AFTER the Source is constructed or after approval of an existing source. This begins the review and approval process for safe yield determination, adverse interference with existing uses, water quality testing, and any special studies to show adequate protection of the proposed water source for a Public Community, Public Non-Community (NTNC, TNC), Domestic Bottled/Bulk Water Supply, and for a Groundwater Withdrawal Permit. The constant discharge test or required studies, or both, may commence following Division approval of a complete Source Testing Review Application submittal.

**I: Source Testing Information**
**A: Complete for All Sources**

1. Project ID # (PID)			
2. Water System Name		WSID	
3. Project Name			
4. Town			
5. Source ID Letter(s) or Name			
6. Source GPS Location		N	W
7. Source Type	<input type="checkbox"/> Drilled Well <input type="checkbox"/> Surface Water <input type="checkbox"/> Dug Well <input type="checkbox"/> Other: <input type="checkbox"/> Spring		
8. Project Max Day Demand (gpm)			

**B: Drilled Wells Only**

9. Well Report or Tag Number. Attach Well Completion Report.	
10. Well Drillers Yield (gpm)	
11. Proposed Constant Discharge Test Rate (gpm)	
12. Proposed Monitor Radius (ft)	
13. Proposed Test Duration (hrs)	

**C: Other Source Types (e.g. dug wells, well points, springs, infiltration galleys, surface water intakes)**

14. Source Construction	Attach as-built source construction plans and specifications
15. Springs	Attach as-built construction and description of high and low flow analysis
16. Surface Water	Attach as-built intake structure and description of safe yield analysis

**II: Required Attachments**

- A. Interference Assessment:** On an appropriate scale topo map or orthophoto, locate and identify all water supplies and appropriate monitor wells within the specified area. Refer to Table App-1 or Table App-2 below to determine the appropriate radius. For Springs or Surface Water sources, include documentation of all other withdrawals as part of the low flow analysis. For each source specified above, include the following:
- i. Source owner's name, mailing address, email address, and phone number.

- ii. Source type, source depth, yield, pump setting, and well log.
- iii. Demand (e.g. number of bedrooms). See *Vermont Water Supply Rule* Table A2-1.

**Table App-1.** For PCWS, Bottled/Bulk Water Sources, and for Groundwater Withdrawal Permits

Discharge Test Rate (gpm)	Monitor Radius* (ft)	Test Duration (hr)
0 – 19.9	1000	72
20 – 49.9	2000	72
50 – 99.9	2500	96
100 – 199.9	3000	120
200 +	3000	168

\* Use monitor radius listed in Table App-1 *only if* monitoring of the Area of Influence is not required.

**Table App-2.** For NTNC and TNC Water Sources

Discharge Test Rate (gpm)	Monitor Radius* (ft)	Test Duration (hr)
0 – 1.9	200	24
2 – 4.9	500	36
5 – 7.9	1000	48*
8 – 19.9	1000	72
20 – 49.9	2000	72
50 – 99.9	2500	96
100 +	3000	120

\* May be increased to 72 hours if interference or special studies are required.

**H. Proposed Scope of Required Studies;** including but not limited to:

- i. Type of study.
- ii. Locations and construction of proposed monitoring wells.
- iii. Data collection procedures.
- iv. Proposed methods of analysis, including references

**III: Notes**

- Note 1:** For commercial and industrial Groundwater Withdrawal Permit source testing, the applicant shall comply with all specific testing and monitoring requirements of the *Vermont Groundwater Withdrawal Reporting and Permitting Rule*, Chapter 24 that may be appropriate if not identified here.
- Note 2:** If permission to monitor a source is denied, the Division requires the potential interference impact to be estimated using design criteria and the best available information.
- Note 3:** Yield Analyses per *Vermont Water Supply Rule* regulations: For a well, a constant rate discharge test. For springs, low flows analysis (and high flow for SPA delineation). For surface water safe yield without raw water impoundment, 1Q20 analysis; or with raw water impoundment, 20-50 year drought condition using a mass diagram. Minimum stream flow requirements shall be evaluated for any proposed source.
- Note 4:** Any proposed change to a Public Community, Bottled/Bulk Water, and Non-Transient Non-Community (NTNC) Water Supply Source Protection Area requires a 30 day public notice with the draft Source Permit. The applicant shall identify and submit a list of all landowners within the proposed Source Protection Area and their mailing and email addresses.
- Note 5:** Pursuant to the *EPA Surface Water Treatment Rule*, the Division is responsible for determining which public water sources are under the direct influence of surface water. It is the applicant's responsibility to provide the Division with the information necessary to make this determination as set forth in the Water Supply Division Guidance Document, "Groundwater Under the Direct Influence of Surface Water".

- A new well may not be subject to microscopic particulate analysis testing if the following criteria are met:
- 1. The well is located over 150 feet from the surface water source; and
  - 2. The well has greater than 50 feet of sealed casing; or
  - 3. The well casing penetrates an areally extensive confining bed

**Note 6:** Bottled or Bulk Water Sources, in addition to complying with the *Water Supply Rule* Chapter 21, shall also comply with the requirements of the *Groundwater Withdrawal Reporting and Permitting Rule* Chapter 24.

## Application Completion Instructions

### Source Testing Information I:

Applicant shall provide the following information:

1. Project Identification number assigned to this project by the Drinking Water and Groundwater Protection Division ("Division"). For Source Permits, this number has the format S-####-##.#.
2. Water System Name and Identification Number (WSID) the source is proposed to serve.
3. Name of project. Please notify the Division if the project name changes from the one identified on the Source Application.
4. Town in which the project is located.
5. Source ID letter(s) or name from the *Source Permit Application* form or from a previous *Wastewater System and Potable Water Supply* application.
6. Include the GPS location of the source following construction. If more than one source is being evaluated, include this information for each source on an attachment.
7. Choose the type of source construction, or choose other, and describe the source.
8. Enter the Project Max Day Demand in gpm derived from the basis of design and show all calculations.

### Drilled Wells Only

9. Enter the Well Report Number or Tag Number from the Well Completion Report and attach a copy of the Well Completion Report
10. Drillers yield from Well Completion Report
- 11-13. Determine the proposed constant discharge test rate, interference monitoring radius, and test duration.

### Other Source Types

14. Attach source construction as-built plans and specifications including materials and dimensions. For Springs and Dug Wells, include a sediment profile.
15. For Springs: Attach as-built construction and a description of the proposed high and low flow safe yield analysis. For Surface Water: Attach as-built intake structure and a description of the safe yield analysis.

### Required Attachments II:

- A. Interference Assessment: Provide the requested information for drinking water sources, and for non-drinking water source uses (e.g. farm irrigation wells, livestock watering, wetlands, ponds)
- B. Proposed Scope of Required Studies: Explain the studies that need to be performed (e.g. Potential Source of Contamination study, 2 Year Time-of-Travel (2Y TOT) study, hydraulic connection study)

### Please return to address below

Electronic Submittals: [ftp://ftp.anr.state.vt.us/Public Water Supply/](ftp://ftp.anr.state.vt.us/Public%20Water%20Supply/) (NOTE: link **MUST** be opened in Windows Explorer, not a web browser)

Drinking Water and Groundwater Protection Division  
1 National Life Drive, Main 2  
Montpelier, VT 05620-3521  
Fax: 802-828-1541

This form and related environmental information are available electronically via the internet. For information visit us through the Vermont Homepage at <http://www.vermont.gov> or visit directly at <http://www.vermontdrinkingwater.org>

## Submittal of Source Evaluation Report

The Report shall contain all the information below, organized in the same format, unless exempted by the Division:

- A Site: Documentation of ownership or control of the source location, and source isolation zone if one is required. Include the deed's town, book and page numbers.
- B Source Construction: Submit as-built engineering plans for Source Construction (Well Completion Report, spring box/tile details, or surface water intake structure).
- C Interference Analysis:
  - 1. Analysis and determination of interference effects on existing sources or uses of water. If undue adverse interference is present or calculated, describe the method of resolution. Show interference monitoring data and all calculations;
  - 2. Analysis and determination of no undue adverse effect on wetlands under the Vermont wetland rules or on other water resources hydrologically interconnected with the source of withdrawal;
  - 3. Submit completed Production Well and Observation Well ID Sheets. These can be found at: <http://www.drinkingwater.vt.gov/pcwsapps.htm>
- D Surface waters: An evaluation and determination of undue adverse impacts to any surface waters (i.e. streams, brooks, rivers, ponds, reservoirs, lakes) in the area of influence.
- E Source Yield:
  - For wells: submit analysis for determination of safe yield that satisfies the project demands, submit constant rate, step test, and other pumping test data;
  - For springs: submit high and low flow analysis;
  - For surface water withdrawals: submit safe yield analysis.
- F Water Quality:
  - 1. Attach results of all required water quality testing. Initial source testing water samples are to be collected immediately following the end of the Constant Rate Discharge Test, or immediately following the Peak Instantaneous Flow Test. If yield testing is not required, then the source is to be flushed and purged (run to waste) for several hours or for 2-3 well volumes prior to taking the water quality samples. The source sample shall NOT contain a disinfectant;
  - 2. When **initial source water quality sampling** is performed the following information is to be included on the testing laboratory's report and chain of custody forms:
    - i. *Water System ID #*: This is the WSID # (i.e. WSID 5001, WSID 20345).
    - i. *FacilityID #*: This is the well/spring/intake number assigned by the Division (i.e. WL001, IN001).
    - ii. *Sample Point #*: This is the Raw Water sample point number assigned by the Division (i.e. RW001).
    - iii. *Sample Type*: Write "Special".
    - iv. *Description*: Write "**Raw Water, Initial, Source Water Permitting for** (insert Project Identification # here)". (This is the PID # assigned by the Division (i.e. S-2878-13.0)).
  - 3. If Microscopic Particulate Analysis (MPA) testing is required, follow the laboratory sampling protocols.
- G Source Protection Area (SPA):
  - 1. For Public Community (PCWS) and Non-Transient, Non-Community (NTNC) water systems submit an analysis and map of the Source Protection Area (SPA) and the Zones within it.
  - 2. List of land owners within the SPA and their mailing and email addresses; Submit a tax map if available.
  - 3. Electronic submittal procedure for Source Protection Areas following the Division's approval:  
The format to be used for all submittals of new or changed Source Protection Areas and is to be included along with the Source Evaluation Final Report. Please visit <http://www.drinkingwater.vt.gov/pcwspermits.htm> Look under the heading 'Electronic Submittal Procedure for Source Protection Areas (SPAs)' to find the electronic format template;
  - 4. For multiple water sources – each water source is to have a specific SPA associated with it.
- H Special Studies: Analysis and conclusions for any additional studies as required, showing rationale for assumptions and calculations.
- I Source Protection Plan (SPP): At the Applicant's discretion, to expedite the issuance of the Source Permit, the SPP may be submitted at a date following issuance of the Permit (to be included as a Permit Condition) and shall conform to the requirements of Subchapter 21-16 of the VT Water Supply Rule.
- J Include in the Report any additional information that is required by the Groundwater Withdrawal Reporting and Permitting Rule, Chapter 24 as appropriate (for bottled or bulk water sources or for non-drinking water sources requiring a *Withdrawal Permit*).