

**PRELIMINARY ASSESSMENT WORKSHEET**

Preliminary assessment of groundwater sources to determine sources that are secure.

**System Name:**

**Source Name:**

**Population Served:**

**Date:**

*Instructions*

In Column A: Circle the applicable points. Total this column for the current risk score.

In Column B: Place maximum potential increase in points available if the operator can provide more information (make unknowns known) or complete remedial action (repair wells construction deficiencies) or operate & maintain the well successfully (complete testing, record-keeping as required). Points in this column are not available where the box is grayed out.

<b>Part</b>	<b>Item</b>	<b>A</b>	<b>B</b>
<b>1)</b>	<b>Type of Structure</b> (select one)		
	· Well	10	
	· Spring	5	
	· Infiltration Gallery/Horizontal Well	0	
<b>2)</b>	<b>Historical Pathogenic Organism Contamination</b> (select one)		
	· Historical or suspected outbreak of Giardia or other pathogenic organisms associated with surface water, with current system configuration	-50	
	· No history or suspected outbreak of Giardia or other pathogenic organism	0	
<b>3)</b>	<b>Historical Microbial Contamination<sup>1</sup> of in the past three years</b> (Complete a & b)		
	a) Total Coliforms (select one)		
	· No Positives & all samples submitted	15	
	· One Positive & all samples submitted	10	
	· Two Positives or more & all samples submitted	0	
	· Two or more positives & not all samples submitted	0	
	· No history or Not all samples submitted	0	
	b) Fecal Coliforms/E. Coli (select one)		
	· No Positives & all samples submitted	20	
	· One Positive & all samples submitted	10	
· Two Positives or more & all samples submitted	0		
· Two or more positives & not all samples submitted	0		
· No history or Not all samples submitted	0		
<b>4)</b>	<b>Water Quality</b> (select one)		
	· There is a noticeable change in the appearance (colour/cloudiness) or quality of the water shortly after a heavy rainfall or snow melt (as determined by interviewing the well owner and/or visual inspection of the well)	-50	
	· There is not a noticeable change in the appearance or quality of the water shortly after a heavy rainfall or snow melt	0	

5)	<p><b>Land Use</b></p> <p>Horizontal distance between a source of contamination<sup>2</sup> and the well head is (select one):</p> <ul style="list-style-type: none"> <li>· Greater than 300 m (1000 ft)</li> <li>· 60 to 300 m (200 ft to 1000)</li> <li>· Less than 60 m (&lt;200 ft)</li> </ul>	10 5 0	
6)	<p><b>Hydrogeological Features</b> (Complete a, b or c)</p> <p>a) Well in Unconfined Aquifer or unknown Horizontal Distance between surface water<sup>3</sup> and the source is (select one):</p> <ul style="list-style-type: none"> <li>· Greater than 60 m (&gt;200 feet)</li> <li>· 30 to 60 m (100 to 200 feet)</li> <li>· 15 to 30 m (25 to 100 feet)</li> <li>· Less than 15 m (&lt;25 feet) or unknown</li> </ul> <p>Water level in well (when pumping) is (select one):</p> <ul style="list-style-type: none"> <li>· Significantly higher than typical level nearest surface water</li> <li>· Not significantly higher than typical level nearest surface water</li> </ul> <p>b) Bedrock Well Horizontal Distance between surface water<sup>3</sup> and the source is (select one):</p> <ul style="list-style-type: none"> <li>· Greater than 150 m (&gt;500 feet)</li> <li>· 75 to 150 m (250 to 500 feet)</li> <li>· 30 to 75 m (100 to 250 feet)</li> <li>· Less than 30 m (&lt;100 feet) or unknown</li> </ul> <p>c) Well in Confined Aquifer Horizontal Distance between surface water<sup>3</sup> and the source is (select one):</p> <ul style="list-style-type: none"> <li>· Greater than 15 m (&gt;25 feet)</li> <li>· Less than 15 m (&lt;25 feet) or unknown</li> </ul>	20 10 5 0  5 0  20 10 5 0  20 10	
7)	<p><b>Well Construction</b> (Complete a, b, c and d)</p> <p>a) Casing (select one)</p> <ul style="list-style-type: none"> <li>· Cased properly<sup>4</sup>, and annular space is sealed with an impermeable material such as concrete; and seal is not with an unacceptable or non-intact material; and casing construction is not unknown</li> <li>· Cased improperly (eg. wood), or unknown</li> </ul> <p>b) Well Cap (select one)</p> <ul style="list-style-type: none"> <li>· Has a well cap securely attached, and is securely attached; and well casing appears to not have cracks or unsealed joints</li> <li>· Improper cap</li> </ul> <p>c) Casing height (select one)</p> <ul style="list-style-type: none"> <li>· Extends greater than 60 cm above the ground surface</li> <li>· Less than 60 cm above the ground surface</li> </ul> <p>d) Well Discharge pipe (select one)</p> <ul style="list-style-type: none"> <li>· Well discharge pipe is constructed in a manner that does not allow surface runoff or infiltrating surface water into the well (e.g. pitless adaptor and a sealed discharge pipe exit)</li> <li>· Surface water could enter well due to poor well discharge pipe construction</li> </ul>	0 -20  0 -20  0 -20  0 -20	

8)	<b>Well Screen Construction (Complete either a or b)</b>		
	a) In wells tapping unconfined, semi confined aquifers, or bedrock aquifers (or where the aquifer type is unknown), depth below land surface to top of perforated interval or screen is (select one): <ul style="list-style-type: none"> <li>· Greater than 60 m (&gt;100 feet)</li> <li>· 30 to 60 m (50 to 100 feet)</li> <li>· 15 to 30 m (25 to 49 feet)</li> <li>· 0 to 15 m (0 to 24 feet)</li> <li>· Unknown</li> </ul> b) In wells tapping a confined aquifer <ul style="list-style-type: none"> <li>· All wells in a confined aquifer</li> </ul>	15 10 5 0 0	
9)	<b>Well Intake Construction (Complete either a or b)</b>		
	a) In wells tapping unconfined or semi confined aquifers or bedrock aquifers (or where the aquifer type is unknown), depth to static water level below land surface is (select one): <ul style="list-style-type: none"> <li>· Greater than 60 m (100 feet)</li> <li>· 30 to 60 m (50 to 100 feet)</li> <li>· 15 to 30 m (25 to 49 feet)</li> <li>· 0 to 15 m (0 to 24 feet)</li> <li>· Unknown</li> <li>· Intake open to the atmosphere<sup>5</sup></li> <li>· Leaks in source collector allowing entry of surface water</li> </ul> b) In wells tapping confined aquifers, depth to static water level below land surface is (select one): <ul style="list-style-type: none"> <li>· Greater than 5 m (15 feet)</li> <li>· 0 to 5 m (0 to 14 feet)</li> <li>· Unknown</li> <li>· Intake open to the atmosphere<sup>5</sup></li> <li>· Leaks in source collector allowing entry of surface water</li> </ul>	15 10 5 0 0 -20 -40  15 0 0 -20 -40	
10)	<b>Well Maintenance (Complete a, b, c &amp; d)</b>		
	a) Record Keeping (over last five years) <ul style="list-style-type: none"> <li>· Completed and maintained as required</li> <li>· Not completed as required.</li> </ul> b) Onsite testing (if required) <ul style="list-style-type: none"> <li>· Completed as required (or not required)</li> <li>· Not Complete as required</li> </ul> c) Shock Chlorination of Well (averaged over last three years) <ul style="list-style-type: none"> <li>· Twice per year (once per year seasonal system)</li> <li>· Once per year</li> <li>· Less than once per year or unknown</li> </ul> d) Reporting of events (over last three years) <ul style="list-style-type: none"> <li>· Completed or not required</li> <li>· Event occurred that should have been reported</li> </ul>	0 -10  0 -10  0 -5 -10  0 -10	

11)	<b>Consumer Characteristics</b> (Complete a, b, & c)		
	a) Number of patrons/customers/employees served each day (select one)		
	· 1 to 25 people	0	
	· 26 to 100 people	-5	
	· More than 100 people	-10	
	b) Primarily serves Infants, Elderly, Immuno-compromised and/or Immuno-suppressed		
	· Yes	-20	
	· No	0	
	c) Type of user (select one)		
	· Primarily permanent residents (eg. residential developments)	0	
	· Primarily the same consumers while open (eg. private cabins)	-5	
	· Primarily transient users (eg. campgrounds, restaurants)	-10	
12)	<b>Water Use Characteristics</b> (Complete a & b)		
	a) Water used for		
	· Non-contact hygienic purposes (eg. toilet flushing, watering)	20	
	· Contact hygienic purposes (eg. showering)	10	
	· Drinking purposes	0	
	b) Water System operated for		
	· Less than 60 days per year	10	
	· More than 60 days per year	0	
	<b>Sub-Totals</b>		
		<u>        </u>	<u>        </u>
		<b>A</b>	<b>B</b>
	<b>Current Score (A):</b> _____	<b>Secure Well / Medium Risk / High Risk</b>	
	<b>Potential Score (A+B):</b> _____	<b>Deferred: Yes / No</b>	

**PRELIMINARY ASSESSMENT DETERMINATION**

- Secure Well ( $A \geq 70$  points): Well is classed as a secure groundwater source
- Medium Risk: ( $55 < A < 70$  points): Well may be potentially GUDI or otherwise a high risk
  - Deferred ( $A+B \geq 70$ ): Well may be considered low risk if additional information is collected or deficiencies are corrected.
- High Risk ( $A < 56$  Points): Well is classed as potentially GUDI or otherwise a high risk
  - Deferred ( $A+B \geq 56$ ): Well may be considered low or medium risk if additional information is collected or deficiencies are corrected.

**Comments:**

### *Notes*

1 If a microbiological positive test was determined to be due to sampling error and not due to contamination, it should not be considered a positive for this analysis.

2 A source of contamination includes septic systems (holding tanks not included), landfill, manure storage or application, livestock, wildlife, and other microbial contamination sources but does not include surface water. Other contamination sources such as chemical storage and fuel storage are a risk to water safety however, outside of the scope of this assessment.

3 Surface water includes at a minimum all perennial surface waters including

- Lakes, streams, ponds, creeks, rivers, ditches, drains, etc
- Intermittent surface water such as ponds, streams, ditches, drains, etc
- Wastewater treatment lagoons
- Other natural or manmade lagoons, ponds, or reservoirs

For determining distances between the surface water and the groundwater source, measurements should be made from the annual high water level.

4 Proper casings include:

- Casings made from plastic, steel, or fibreglass. Concrete could also be used for certain situations although this is discouraged.
- Casings that are continuous and water tight from the top to the screen

5 Intake open to the atmosphere can include an improperly constructed collection system from a spring system where water that has been exposed to the atmosphere may be collected. This does not include the ability to visibly observe water in the well if the well cap/lid is removed.

### *General*

Owners of poorly constructed wells : advised to make improvements even if this assessment does not result in a medium or high risk.

Where individuals, such as immune-compromised, youth and the elderly, are present, a conservative approach should be taken when completing the assessment.

### *Form Completion Examples:*

- 1) If there has been one positive total coliform but not all samples were submitted, Column A = 0, Column B = +10.
- 2) If there has been zero positive total coliform but not all samples were submitted, Column A = 0, Column B = +15.
- 3) If the Casing height is less than 60 cm above the ground surface, Column A = -20, Column B = +20
- 4) For Section 8, if it is uncertain if the well is in a confined or unconfined aquifer, complete part a. If the depth is 16 metres, column A would be 5 and column B would be +10.