	Ontario Well Water Study
	Household Questionnaire
Date of interview:	(dd/mm/yyyy)
Interviewer:	
Household ID:	

Consent acquired

I am going to start with a general household questionnaire. It should take about 10 minutes and covers things about people who live here, your water supply and septic system, and even your pets.

You are free to refuse to answer any question and to stop the interview at any time. However, your answers are all important and I hope you are able to answer all of the questions I ask you.

Do you have any questions?

I am going to start with a few questions about you.

- 1. The respondent is:
 - ___ Male □ Female
- 2. How old are you?

years (999 for don't know/refused)

- 3. How long have you lived at this address? (using this well)

years (999 for don't know/refused)

I am going to ask about people who currently live in your home. For these questions, I would like to know about people who live in your home, whether or not they are related to you, but who live at this address four or more days per week.

4. Including yourself, how many adults, that is people 20 years and older, currently live in your home?

(99 don't know/refused)

5. How many youths 12 to 19 live here?

months

____ (If none, enter 0, do NOT leave blank)

6. And how many children 4 to 11 years?

- 7. How many children under 4 years of age live in your household?
 - 7a. Are any of the children still in diapers? (Includes "pull-ups")
 - Yes No Don't know / refused
 - 7b. Do any children in your household go to a day care centre? (5 or more children in centre; child in care 1 or more days/week)

	Yes
	No
\square	Don't know

8. Does anyone in the household work at any of the following...

	Yes	No
Day care centre or babysitting service		
Hospital, nursing home or residential home		
Sewage treatment plant		
Any other job where they are in contact with human waste:		
Farm with livestock (any type)		
Abattoir, butcher shop, or meat processing		
Animal feed processing plant		
Nursery or landscaping service		
Any other job where they are in contact with meat, animals, or animal waste:		

9. What township and county is this residence a part of?

Township: ______ (Write don't know/refused as required) County:

- 10. Do you have a swimming pool? (not a pond or swimming hole)
 -] Yes] No] Don
 - Don't know
- 11. Do you have a hot tub or spa?
 - _ No _ Yes
- 12. Have many washrooms do you have in your home?

(With toilet; include outhouse; 99 for don't know/refused)

Now I would like to ask a few questions about your pets.

- 13. Do you have any pets?
 - Yes
 - No (Skip to Q=14)
 - Don't know/refused
 - 13a. What kind of pets do you have?

Dog(s)		
Cat(s)		
Bird(s)		
Other: specify: _	 	

14. In the past three months, have any animals spent more than a few minutes <u>inside</u> the house? (Several hours per week. Include animals that only live in house e.g. hamster)

Yes No *(Skip to* Q=17) Don't know/refused

14a. What kind of animals have spent time inside the house?

Dog(s)	
Cat(s)	
Bird(s) - (Skip to Q=16)	
Other: specify:	(Skip to Q=16)
	- (Skip to Q=16)

15. How often would you say you give your <FILL: cat and/or dog> any of the following. Would you say your pet(s) often, sometimes, rarely or never get(s)... (*Read list*)

	Often	Some times	Rarely	Never
Commercial dry or canned food				
Commercial biscuits or dry treats				
Raw meat (any kind)				
Cooked meat				
Raw hide treats				

16. Were <u>any</u> of these animals on antibiotics in the past <u>three months</u>? (*Not just cat/dog. Ref: calendar*)



16a. Do you recall what kind(s) of antibiotic were they given?

I'm going to ask a few questions about your drinking water now.

17. Where do you get the water you use for drinking? Is it from a private well, a well used by 6 or more households, a cistern, a municipal system, or some other source?

Private well		•
Communal well (6 c	or more housel	holds)
Cistern		
Municipal (or town) wa	ter	
Bottled (bulk or individ	lual)	
Other:		
Don't know		

17a. And... where do you get the water you use for bathing, dental care, and other house<u>ho</u>ld uses?



18. What type of well do you have? Is it drilled, dug, bored, or driven, which is also called a sand point or well point?



19. How deep is your well?



feet (9999 for don't know) metres

20. How old is it?



months (999 for don't know)

- years
- 21. Have any repairs or maintenance be done on your well or water lines in the

past <u>12 months</u>?



No \rightarrow skip to Q=22 Don't know

21a. And in the past <u>3 months</u> have any repairs or maintenance be done on your well or water lines?



- 22. Why did you submit your water for bacteriological testing this most recent time?
 - Do it regularly / routinely

 Off colour / cloudy

 Bad / different taste

 Odour

 Heavy rain

 People ill with stomach illness / diarrhoea

 E. coli in previous test

 Other:

 No specific reason

 Don't know
- 23. How many times did you send your water for bacteriological testing in the past <u>12 months</u>?



- Number Many times (don't know exactly, but more than 10) Don't know
- 24. How many times has your well water tested positive for E. coli in the past
- 12 months? (Use results sheets if available)

Number	
Many times	(don't know exactly but more than 10)
Don't know	

24a. And do you recall how many times it tested positive for coliforms?



Ш

Number Many times (don't know exactly but more than 10) Don't know

24b. For those with UV lights, etc. How many times have you sent your tap water for testing and how many times has it been positive for E. coli or coliforms?

25. Do you currently <u>treat</u> the water you use for drinking? By treating, I mean boiling, adding chlorine or some other treatment to remove bacteria and other contaminants?



No *(Skip to Q=26)* Don't know

25a. How do you treat it?

Boil

Chlorine → Did you "shock" treat it □ or use a chlorinator □ ?
Filtration
Brita or other "filter" system
Ultraviolet (UV)
Ozone
Other: _____
Don't know

25b. When did you start treating it?
25c. And do you treat the water you use for dental care, bathing, and other household uses? Yes No (Skip to Q=26) Don't know
25d. How do you treat it? Same as above (Q=25) Boil Chlorine → Did you "shock" treat it □ or use a chlorinator □ ? Filtration Brita or other "filter" system Ultraviolet (UV) Ozone Other:
25e. When did you start treating it?

Now a few questions about your septic system. Remember that everything you tell me during this survey is confidential. Your name will not be connected to anything you tell me and it will never be shared with anyone outside this study.

26. How is your domestic sewage handled? Do you have a ... (Read list)

\square	Septic tank and weeping bed (aka: field or leaching bed)
	Field tank
	Holding tank
	Lagoon
	Surface discharge (Skip to Q=28)
	Municipal system (Skip to Q=28)
\square	Other:
	Don't know ***Do NOT read***

27. When was the last time you had the tank [lagoon] pumped?

months (999 for don't know)

years (888 for never)

28. How old is your septic system – or – How long have you been on the municipal sewage system? (*Note: Oldest part if renovations completed*)

months (999 for don't know) vears

29. Have any upgrades or maintenance been done on your sewage system in the past 12 months?

	Yes
\square	No \rightarrow Skip to Q-30
\square	Don't know

29a. And in the past 3 months have any repairs or maintenance be done on your sewage system??

Yes
No
Don't know

Next I would like to ask a few things about your property.

30. How would you describe the soil on your property. Would you say it is predominantly (*Read list*)_

Gravel	
Sand	
Loam, or	
Clay	
Don't know	***Do NOT read***

31. How many acres of property do you own [rent] at this location?

acres (9999 for don't know) hectares

32. Would you describe your property as being ... (Read list)

	Farm
	Non-farm rural
	Village or hamlet (<1,000 people)
	Small town (1,000 to 10,000 people)
\square	Other:

33. Have livestock been housed on <u>this</u> property in the past 12 months? This includes animals owned and/or cared for by your family or housed here and cared for by other people. (*Include pony, chickens, pigeons, etc. but not cats, dogs*)

Yes
No (Skip to Q=39)
Don't know

33a. What type of livestock have been on this property in the past <u>12 months</u>?

(Check all that apply.)	
Dairy cattle	Pigs
Beef cattle	Horses or ponies
Sheep (lambs)	Chickens
Goats	Turkeys
Other:	
Other:	

33b. What is the largest number of <FILL: type of livestock> that have been housed on this property in the past 12 months?

(type)			
(type)			
(type)			
(type)			

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34. Are livestock <u>currently</u> housed on the property?
 35. Do <u>you</u> care for the livestock on this property? Yes No (Skip to Q=37) Don't know
 36. Have you used antibiotics as a feed supplement for your livestock in the past 12 months? Yes No (<i>Skip to Q=37</i>) Don't know
36a. What type(s) of antibiotic have you used as a feed supplement? (Write in 'don't know' if applicable)
36b. When did you start using antibiotics in your feed?
36c. Are you still using antibiotics in your feed? Yes (Skip to Q=37) No Don't know
36d. When did you stop using it?
37. Where, <u>in relation to your well</u> , has manure been <u>stored or spread</u> over past year? Would you say it is stored or spread(<i>Read list</i>) (<i>Includes liquid or solid; stored in any way</i>) Within 15 metres (50') of your well



37a. And within the past 3 months, where, in relation to your well, has manure been stored or spread? Would you say it is stored or spread ... (*Read list*)



37b. When was the <u>last time</u> manure was stored or spread on fields <u>within 30</u> <u>metres</u> (100') of your well? Would you say... (*Read list*)

- Within the past month
 - Within the past 3 months
 - Within the past 12 months
 - More than 12 months ago, or
- Never
 - Don't know ***Do NOT read***
- 38. How soon is manure <u>usually</u> worked into the ground when it is spread? Would you say it is worked in... *(Read list)*
 - Same day (includes injected)
 - Within 1 to 3 days
 - Within 4 to 7 days
 - More than one week after it is spread
 - Don't know ***Do NOT read***

<u>39</u>. Has a <u>neighbour bordering your property</u> had livestock on their land in the past 12 months? By bordering, I mean a neighbour that shares a fence line with you.

]	No	(Skip to Q=42)
]	Yes	
Ī	Don	't know

39a. What type of livestock were on that property within the past 12 months? (Check all that apply)

Dairy cattle	Pigs
Beef cattle	Horses or ponies
Sheep (lambs)	Chickens
Goats	Turkeys
Other:	
Other:	

- 40. Has a neighbour bordering on your property spread manure on their fields in the past 12 months?
 - Yes No *(Skip to Q=42)* Don't know

40a. Where, in relation to your well, have neighbours spread manure over past <u>12</u> months? Would you say it is spread ... (*Read list*)

	Within 15 metres (50') of well
\square	Within 30 metres (100') of well

- Within 100 metres (330') of well
- More than 100 metres (330') from well
- Not spread in past 12 months (Skip to Q=42)
- Don't know ***Do NOT read***

40b. And in the past 3 months has a neighbour spread manure on their fields?

- Yes
- No (Skip to Q=41)
- Don't know

40c. Where, in relation to your well, have neighbours spread manure over past <u>3</u> months? Would you say it is spread ... (*Read list*)

- Within 15 metres (50') of well
- Within 30 metres (100') of well
- Within 100 metres (330') of well (Skip to Q=41)
- More than 100 metres (330') from well (Skip to Q=41)
- Not spread in past 3 months (Skip to Q=41)
- Don't know ***Do NOT read***
- 40d. When was the last time manure was spread on fields within 30 metres (100') of your well? Would you say... (*Read list*)
 - Within the past month
 - Within the past 3 months
 - Within the past 12 months ago
 - More than 12 months ago, or
 - Never
 - Don't know ***Do NOT read***
- 41. How soon is manure <u>usually</u> worked into the ground when it is spread? Would
 - you say... (Read list)
 - Same day (includes injected)
 - Within 1 to 3 days
 - Within 4 to 7 days
 - More than one week
 - _____ ___ Don't know ***Do NOT read***
- 42. Do you fertilize your vegetable or flower gardens or fruit orchards with animal manure? (any source including store purchased)
 Yes

	Yes
	No
\square	Don't know

43. Has sludge from <u>human</u> waste been spread on fields within 90 metres (300 feet) of your well in the past 12 months?

	Yes
	No
\square	Don

No Don't know

44. And in the past 12 months, has waste from meat processing been spread within 90 metres (or 300 feet) of your well?

<u>ر</u>	
	Yes
	No
	Don

No Don't know

I am going to ask a few questions that will help us group your information with other households most like your own. Remember that nothing about you, as an individual, will ever be released and you are identified by number in this study. 45. First, what is the <u>highest</u> level of education that has been attained by any adult in the household? Would that be (*read list*) ...

 Less than grade 9

 Some high school

 Graduated high school

 College or trade school

 University

 Don't know *** Do NOT read***

 Not stated *** Do NOT read***

46. What is your best estimate of the <u>total off-farm</u> income, before taxes and deductions, of <u>all</u> household members combined, from all sources, in 2004? Was that total household income... (*Read list – include income from government sources*)

 Less than \$20,000

 \$20,000 to less than \$40,000

 \$40,000 to less than \$60,000

 \$60,000 to less than \$80,000

 \$80,000 or more

 Or do you have no off-farm income

 Don't know
 *** Do NOT read***

 Not stated
 *** Do NOT read***

For farming households only (Q=32=farm)...

47. What is your best estimate of the <u>net</u> income from your farm, before taxes, in 2004? Was that net income ... (*Read list*)

Less than \$20,000
 \$20,000 to less than \$40,000
 \$40,000 to less than \$60,000
 \$60,000 to less than \$80,000
 \$80,000 or more
 Don't know ***Do NOT read***
 Not stated ***Do NOT read***
 Not applicable: Not a farming property

Thank you. That is all of the questions I have about the household. I would like to take a few measurements around your property to show where things are in relation to your well. However, I would also like to ask you a few questions

about your personal water use, use of medicine, travel, and some other things that might influence whether you carry antibiotic resistant bacteria.

Would you prefer I do the personal interview(s) now and do the measurements after we are through with it?

48. GPS coordinates from well:



49. Note the distance between the well and each of the following...

	Distance	М	Km	Ft	Yd	Mile	NA	DK
Septic tank								
Weeping tile								
House								
Vegetable or flower garden								
Area used to store manure in past 12 months								
Stables or kennels								
Land used as pasture in the past 12 months								
Field where manure applied in past 12 months								
Fields tilled/worked in past 12 months								
Open water								
Forest/wooded area								
Sanitary land fill site								
Nearest property line								
Neighbour's septic system								
Municipal sewage tile – if within 1000 metres								
Other:								
* 9999 = don't know								

8888 = not applicable

Thank you very much for your time. Do you have any questions?

Ontario Well Water Study Personal Questionnaire
Date of interview:
Interviewer:
Personal ID:
Consent acquired
This interview should take about 10 minutes and covers things about your medical, work, and travel history, as well as some questions about your use of water and some personal habits. You are free to refuse to answer any question and to stop the interview at any time. However, your answers are all important and I hope you are able to answer all of the questions I ask you. First, I am going to ask a few questions about yourself so we can group you with others like you.
1. What month and year were you born? (Birthday this month: record next month if not passed)
2. Male

- 3. How long have you lived at this address? (meaning at the house with this well)

months (Enter 999 for don't know/refused) years

Now I am going to ask a few questions about your health.

4. Has a doctor ever told you that you have...(Read list)

	Yes	No	D.K.
Diabetes (type I or type II)			
Cancer			
Arthritis or rheumatism			
Heart disease or high blood pressure			
Asthma, bronchitis, or emphysema			
Autoimmune disease like lupus or Grave's disease			
Migraines			
Kidney disease			
Crohn's disease, ciliac disease, colitis, ileitis, or IBS			
Ulcers			
Any other digestive problems*:			
Any other chronic conditions:			

5. Have you been hospitalized, for at least one night, in the past 12 months? (*Ref: calendar*) Yes



No *(Skip to Q=6)* Don't know/remember

5b. When were you admitted to hospital? (Probe: any other admissions in past year?)

5c. And how many nights did you stay in hospital in <FILL: month>?

••••		
	Date of admission	# of nights
	dd/mm/yyyy	admitted

**Enter 99-99-9999 for don't know/don't remember

Now I'm going to ask a few questions about medications and other medical treatments you may have used in the past three months.

6. Within the past <u>three months</u>, have you taken any of the following medications or treatments? Have you taken....(*Read list – Refer to calendar*)

	Yes	No
Steroids like prednisone or cortisone		
Immunosuppressive drugs like cyclosporine		
Chemotherapy (for cancer)		
Radiation therapy		
Aspirin or ASA for more than a day or two at a time		

7. How about antibiotics like penicillin, tetracycline, gentamycin, and other prescriptions for infections. Have you taken any antibiotics in the past three months?

Yes

No (Skip to Q=9 if "NO" to <u>all medications and treatments....Skip to Q=8 if no only to Q=7</u>) Don't remember

7a. What antibiotics have you taken in the past three months? (*Probe: any others?*) 7b. How long were you on <FILL: name of antibiotic>?

	days/weeks	
	days/weeks	
	days/weeks	
	days/weeks	
	days/weeks	(Circle)

(Enter "don't know" if applicable)

- 8. Are you currently taking any of the medications or treatments I asked about?
 - Yes No (*Skip to* Q=9) Don't remember

8a. What medication(s) [treatments] are you taking right now?

8b. And when did you start taking <fill: medication="" name="" of="">?</fill:>			
	// (dd/mm/yyyy)		

(Use prescription bottle when available - Enter "don't know" if applicable)

9. When you are prescribed antibiotics, how often do you take the medication exactly as prescribed? By that I mean, taking the right number of pills at the right time of day. Would you say you always, usually, sometimes, rarely or never take it exactly as prescribed?

Always Usually

Sometimes Rarely or never Have never been prescribed an antibiotic (Skip to Q=10a) Don't know

10. When you use antibiotics, how often do you finish the <u>full prescription</u>? Would you say you always, usually, sometimes, rarely, or never finish all of the prescription?

Always (Skip to Q=11)
Usually
Sometimes
Rarely or never
Have never been prescribed an antibiotic
Don't know

10a. When you do not finish all medication or when it goes "out of date" or expires, how do you usually dispose of what is remaining? (List all that apply)



11. We define diarrhoea as three or more loose stools or bowel movements in any 24-hour period. Have you suffered from diarrhoea in the past three months?



Don't remember

11a. Have you had diarrhoea in the past month?



- 11b. How many times have you had diarrhoea in the <u>past month</u>?
- 11c. How many days did the last episode of diarrhoea last?

11d. How many days of school or work - including work at home - did you miss because of it?

	Γ

hours (99 for don't remember/don't know)

days (If zero, use 0, do not leave blank)

The next set of questions are about some of the foods you eat.

12. Did you drink raw or unpasteurized milk, or eat diary products made from raw milk, in the past three months? (includes cream, butter, yoghurt, cheese, or ice cream)



12a. How often did you drink raw milk or eat dairy products made from raw milk? Would you say... most days of the week, a few times a month, or less often?

Most days
A few times a month
Less often
Don't know

13. Have you drank unpasteurized cider in the past three months?

Yes
No
Don't

know

Now I am going to ask you a few questions about your use of water.

14. <u>While at home</u>, approximately how many 8 ounce (240 mL) glasses of water do you drink every day? This would also include water in hot drinks like tea or coffee and for cold drinks like orange juice or Kool Aid.

How many 8-ounce glasses do you think you drink every day?

glasses (*Refer to glass - enter 99 for don't know but probe for estimate*)

15. Do you regularly use bottled water at home? By regularly, I mean most days of the week. *(Individual and bulk)*

_ Yes

No (Skip to Q=16) Don't know

hours (99 for don't remember/don't know)

15a. Including water used for hot and cold drinks, about how many 8 ounce

(240 mL) glasses of bottled water do you drink every day?

glasses (99 for don't know)

15b. Do you use bottled water to(Read list)			
		Yes	No
	Wash vegetables or fruit		
	Brushing teeth		
	Washing hands		

15c. How long have you been using bottled water at home?



days (99 for don't know) months vears

This section is about meal preparation and some of your personal practices.

16. How often are you involved in meal preparation in your household? Would you say you always, usually, sometimes, rarely or never prepare meals?

Always		
Usually		
Sometimes		
Rarely (Skip to Q=17)		
Never (Skip to Q=17)		
Don't know		

know

16a. When preparing meals, do you touch raw beef, pork, or poultry with your bare hands?

Yes
No
Don't

17. In general, how often do you wash your hands with soap and water for each of the following. Would you say you always, usually, sometimes, rarely, or never wash your hands with soap and water... (Read list)

			Some			Not
	Always	Usually	times	Rarely	Never	applic.
Before preparing food						
After handling raw meat/poultry						
Before eating meals						
After using the toilet						
After playing with pets/animals						
After changing diapers						
After handling garbage						
After caring for sick people						

Now I'm going to ask about your work and leisure activities.

18. Have you travelled outside Canada in the past <u>12 months</u>? (Includes USA if overnight)

Yes No

No *(Skip to* Q=19) Don't know

18a. To what country or countries did you travel? (*Probe: any others? If many, focus on the past 3 months. If several to same country, focus on most recent trips*)

18b. What dates did you travel to return from <fill: countr<="" th=""><th></th></fill:>	
	dd/mm/y



(Enter "don't know" if applicable)

18c. Did you get diarrhoea while you were travelling or within a few days of returning from your trip(s)?

Yes
No
Don't know

19. Over the past <u>three months</u> have you been swimming in an ocean, lake, river, or pond? *(Include foreign and Canadian)*

Yes
No
Don't know

20. Have you been swimming in a pool in the past three months? (public or private)

Yes
No
Don't know

- 21. And how about a hot tub? Have you used a hot tub in the past three months?
 -] Yes] No
 -] Don't know

I am going to read you a list of activities that might be a part of your day-to-day life. This includes things you might do at work, at home, or during leisure time.

22. <u>Over the past three months</u>, have you been in personal contact with human waste including diapers or bedpans, or while doing plumbing repairs or working at a sewage treatment plant?



Yes No *(Skip to Q=23)* Don't know

22a. Would you say you were in contact with human waste several times per week, several times per month, or less often?

Several times per week
Several times per month

Less often

23. Have you been in personal contact with antibiotics for either human or animal use over the past three months? This might include at a pharmacy, veterinary clinic, or on a farm.

No (Skip to Q=24)

Don't know

23a. Would you say you were in contact with antibiotics several times per week, several times per month, or less often?

- Several times per week
- Several times per month
- Less often

24. Have you been in personal contact with animal or pet food, either at home or at work, in the past three months?



No (Skip to Q=25)

Don't know

24a. Would you say you were in contact with animal or pet foods several times per week, several times per month, or less often?

Several times per week



Less often

25. Have you touched raw beef, pork or lamb with your bare hands in the past three months?

	Yes
-	

No (Skip to Q=26)

Don't know

25a. Would you say you touched raw beef, pork, or lamb several times per week, several times per month, or less often?

- Several times per week
 - Several times per month
 - Less often

26. Over the past three months, have you touched raw poultry with your bare hands? This would include chicken, turkey, or other poultry.

] Yes] No *(Skip to* Q=27)] Don't know

26a. Would you say you have touched raw poultry several times per week, several times per month, or less often?

Several times per month

Less often

27. And over the past three months how often have you been in <u>direct</u> contact with any of these animals, meaning actually touching them <u>or their manure</u>? Would you say you were in contact several times per week, several times a month, less often, or not at all with...(*Read list*)

	Several	Several	Less often	Not at all
	per week	per month		
Dairy cattle				
Beef cattle				
Horses				
Pigs				
Sheep				
Goats				
Chickens				
Turkeys				
Other birds (including wild)				
Dogs				
Cats				
Game animals:				
Other:				

28. Do you attend school or work <u>away from home</u>? (incl. unpaid/volunteer work and all applicable)

Attend school
Work

No (Skip to end)

28a.	On average,	how man	y hours per	r week do	you a	ittend s	school (or work	away	from
home	?	□□ h	ours							

That is all of the questions I have for you at this time. Thank you very much for your help with this study. Do you have any questions for me?

***Provide instructions on how to collect rectal swab.