



March 4, 2026 Council Meeting

March 4, 2026

Addition to the Agenda Questions received from Council seeking additional information and the corresponding responses provided by staff regarding the March 4, 2026 Council agenda items.

6.3 Minutes from joint accessibility meeting: “Municipalities eligible for funding are encouraged to submit applications before the end of the year” – does staff have any recommendations that we can use this funding for?

The Township proactively budgets for and applies to this funding program each year to ensure we receive the maximum amount available. In the 2026 Capital Budget, the Township has included \$30,000 in County Accessibility Grant funding to support accessibility upgrades at the Puslinch Community Centre, specifically improvements to the bar counter and bar entrance door. Under the program guidelines, the Township is eligible to receive up to \$10,000 per year, to a maximum of \$30,000 over three years. We structure our capital planning accordingly to ensure we fully utilize the available annual funding.

6.7 Support Township of Perry re: protecting reduced rate postal distribution for library materials

Staff will have a support resolution prepared.

6.2 AMO Policy Update - Submission on Municipal Environmental Assessments, Advocacy on Municipal Case Law, New Funding for Postsecondary Education
-re “The first case is a Supreme Court ruling that municipalities may lose property title when private owners encroach on parkland. The second is an Ontario Appeal Court ruling that limits the ability of municipalities to enforce contracts with property owners if part of a contract become void.”
-do we have any potential concerns?

Staff will report back to Council when AMO provides the results of their consultation with the Province. Council may also wish to direct staff to seek legal advice, pending AMO’s report.



6.3 December 3 2025 County of Wellington Joint Accessibility Advisory Committee Minutes
-as per the minutes grant funding was available for us in 2026. Did we apply as part of our budget process?

See response above.

6.11 City of Guelph Open House – Gordon Street and Clair

Is this simply for public to provide comments or is it an opportunity for the municipality to provide comments?

Concerned about how the potential of increased lanes on Gordon ultimately impact the corridor through Aberfoyle and the objectives of the road diet study which aims to reduce traffic.

This item is included in the agenda for Council and the Public's information. Staff and the Township's Engineering Consultant have been meeting with the City of Guelph and providing comments regarding the Environmental Assessment & Infrastructure Preliminary Design Study.

6.11 City of Guelph Notice of Public Open House #2 Gordon St from Clair Rd to Maltby Rd
-would it be possible to ask Guelph staff present to our Council specifically with respect to traffic coming into Puslinch?

Staff will prepare a resolution accordingly.

Finance Department

9.2.1 Report FIN-2026-0011 Rural Ontario Development Program – Community Development – Execution of Agreement ≠

-the funding schedule seems to be very ambitious. What happens to funding if we can't meet this schedule?

The funding schedule reflects the requirements of the program, which stipulate that the project must be completed by March 31, 2027. If the Township anticipates that the timeline cannot be met, an extension request can typically be submitted to the Province. Extensions are generally granted for up to six months, subject to approval and justification.

9.2.1 Rural Ontario Development Program-Community Development – are there any concepts, visuals or drawings to indicate what the grant funding would be put towards?

A comprehensive procurement process would be undertaken. As part of that process, proponents would be required to submit detailed concepts, drawings, or visual representations.



Corporate Services Department

9.4.4 Report COR-2026-011 Administrative Monetary Penalty System (AMPS) Bylaw Amendments – Ontario Regulation 260/25 ≠

-what would be the interplay between Fire Services and Bylaw Enforcement?

Open Air Burning is regulated under the Township's Open Air Burning By-law 45/14, as amended, and enacted pursuant to the *Fire Protection and Prevention Act, 1997, S.O. 1997, c. 4* and the *Municipal Act, 2001, S.O. 2001, c. 25*. Enforcement of the Open Air Burning By-law, including the issuance of a Part I Offence Notice under the Provincial Offences Act, requires that the individual be formally appointed as a Municipal Law Enforcement Officer and authorized to enforce that specific By-law. While the Fire Chief and Deputy Fire Chief may be considered as Fire Inspectors under the *Fire Protection and Prevention Act*, that authority relates to enforcement of the Ontario Fire Code and does not extend to enforcement of the Township's Open Air Burning By-law. Subject to Council approval, the Fire Chief and Deputy Fire Chief may be formally appointed a Municipal Law Enforcement Officer.

Similarly, with respect to Administrative Monetary Penalties, which is the subject of this report, the same principle applies. An individual must be formally appointed a Municipal Law Enforcement Officer and delegated authority by the Township in order to issue an Administrative Monetary Penalty under the applicable municipal by-law.

In terms of the current interplay between the Fire Department and By-law Enforcement, when the Fire Department responds to a complaint or incident under the Township's Open Air Burning By-law, Fire personnel attend to address immediate public safety concerns. Any observations, documentation, or evidence gathered during that response are then forwarded to By-law Enforcement, who conduct the follow-up investigation and determine any appropriate enforcement action under the by-law, prioritizing Public Education first, when possible.

This approach ensures that public safety is prioritized in the field, while enforcement is carried out consistently, fairly, and in accordance with the Township's delegated authority.

I would like to make the following motion;
Council in consideration of this report



1. Defers the report until the following is undertaken,
 - (a) The Open Air Bylaw is reviewed and updated to also include burn barrels such as in Guelph Eramosa's Bylaw
 - (b) Residents are advised of the proposed changes to the bylaw through public education
 - (c) Consideration be given to developing a visual guide similar to Guelph Eramosa which depicts types of open air fires with associated clearance distances.

For reference the Guelph Eramosa information can be found here

- Guide [Open Air Burning By-law Brochure.pdf](#)
- Bylaw [Microsoft Word - 39-2017 Open Air Burning By-law](#)

Staff will prepare a resolution accordingly.

9.4.5 Report COR-2026-012 2025 Aggregate Compliance Assessment Reports

- Schedule D 2025 Compliance Assessment Report - 5497 – McNally; Note C14 indicates rock trucks being used to haul from Lanci Pit..... I thought this practice was stopped by us as they have to cross Concession 2
- Schedule J 2025 Compliance Assessment Report - 5631 – Edgington; note at bottom identifies that stockpile nearing 30m no stockpile zone to be addressed
- Schedule N 5737; Ontario gravel pit mapping only shows a sliver of site on the east side as being licensed. Has the rest of the site including the pond been surrendered? If so, who owns it, and what is the classification for taxation purposes?
- Schedule W 624889 appears to be missing
- Schedule X 2025 Compliance Assessment Report - 624952 - Lanci Pit; site plan updated in 2023 to indicate aquaculture and accordingly is zoning appropriate?

These comments, as well as the attached comments from another member of Council has been incorporated into the following proposed Council Resolution:

That Report COR-2026-012 entitled Aggregate Compliance Assessment Reports be received for information; and,

That Council directed staff incorporate the following comments within the Township's Compliance Assessment Report Tracker and that Council direct staff to contact the pit operator and MNR in accordance with the comments:

- 1) **Schedule A – Licence 4565**



- Council direct staff to advise the MNR and pit operator regarding the Township's concerns:
 - i. That a new silt pond or wash out pit has been created in southwest portion of the site, where the site plan indicates there should be a coniferous plantation.
 - ii. that the southwest portion of the property is being used as storage area for equipment and containers, which is not identified on the Site Plan. It is noted this is likely ancillary to the construction business located in the front zoned portion of the property.
- 2) Schedule AA – Licence 625710
 - Council directs staff to request the address for the pit location, rather than the latitude and longitude.
 - The Site Plan indicates that the site plan includes schematic of operations. Section D6 of the CAR Report does not indicate where the operator is currently operating within the sequence. Council directs staff to request this information from the pit operator.
- 3) Schedule B – Licence 5482
 - Council directs staff to notify the County of Wellington regarding the removal of the overburden identified in the 2025 CAR Report for this area to move into the Industrial Tax Classification.
 - Section D6 of the Car Report states that the operator is in compliance with phasing/sequencing of the site and does not indicate the current phasing/sequencing. Council Directs staff to request this information from the operator.
 - Section D7 does not previous disclosure which would add to the disturbed hectarage. Council directs staff to seek clarity regarding the areas where overburden have been removed.
 - Section C22 indicates that the operator is in compliance with importation of material. Operator did not indicate what material was imported. Council directs staff to seek additional information from the operator regarding what and how much material was imported in 2025.
- 4) Schedule C – Licence 5483
 - Council direct staff to advise the MNR and pit operator regarding the Township's concerns that all ponds identified on the site plan in close proximity to the processing plan other the source



pond and the settling pond are full. The settling pond appears to be 95% full.

5) Schedule D – Licence 5497

- Council direct staff to advise the MNR and pit operator regarding the Township's concerns:
 - i. That the silt pond identified on site plan indicates its location is the southeast corner and it appears the operator is currently filling in the northeast corner.
 - ii. That the operator appears to be in violations of Site Note #9 which states there shall be no offsite discharge of processing water and currently there is water being discharged onto another site. Further, Site Note #9 also states the wash water will be contained in the siltation ponds located in the southeast corner and currently the operator is utilizing the created ponds as a water source which is in violation of their site plans.
 - iii. That under section C14 which indicates the use of Rock Trucks for importing material from Lanci.

6) Schedule E – Licence 5514

- Council direct staff to advise the MNR and pit operator regarding the Township's concerns that there is no indication on the site plan of silt immediately adjacent to the processing plant, however creation of a silt pond is noted on satellite imagery.
- C22 indicated that clear inert fill was imported to the site. Council directs staff to request either from the operator directly or through a Freedom of Information request to the Ministry, how much fill was imported, as well as the laboratory testing to demonstrate it met applicable excess soil standards.

7) Schedule F – Licence 5520

- Council direct staff to advise the MNR and pit operator regarding the Township's concerns:
 - i. That silt is being deposited into the McNally (5497) ponds from the southern portion (south of the 401) of the site. Silt fencing was installed due to previous site plan violation concern. Silt fence does not ensure the gradual placement of silt into McNally (5497).
 - ii. That satellite imagery suggests that the site area immediately north of the water intake location could be utilized for silt deposition.



- C22 operator did not indicate what material was imported to the site. Council directs staff to request either from the operator directly or through a Freedom of Information request to the Ministry, how much fill was imported, as well as the laboratory testing to demonstrate it met applicable excess soil standards.
- 8) Schedule G – Licence 5563
- Council direct staff to advise the MNR and pit operator regarding the Township’s concerns with silt deposition on the site.
 - C22 operator did not indicate what material was imported to the site for rehabilitation. Council directs staff to request either from the operator directly or through a Freedom of Information request to the Ministry, how much fill was imported, as well as the laboratory testing to demonstrate it met applicable excess soil standards.
- 9) Schedule H – Licence 5609
- Council directs staff to send the Township’s concerns regarding material being exported from this site to the Mill Creek Pit (5738) in contravention of its site plan which states that material is to be processed at Aberfoyle Pit 1 (5483).
- 10) Schedule I – Licence 5610
- Council directs staff to contact the operator regarding the fencing which requires repair along Wellington Road 32 and Concession Road 4 and request a timeline for when these repairs will be completed.
 - Council directs staff to request that the MNR remove Licence 5610 given the CAR report states that the site is fully rehabilitated.
- 11) Schedule J – Licence 5631
- This site was previously not in compliance with the location of the stockpiles not meeting the setback requirements from the property line, however this has since been addressed.
- 12) Schedule K – Licence 5654
- Council directs staff to request that the MNR remove Licence 5654 given the CAR report states that the site is fully rehabilitated.
- 13) Schedule L – Licence 5709
- Council direct staff to advise the MNR and pit operator regarding the Township’s concerns that shipping containers are located on



the westerly boundary of the property that are not included on the Site Plan.

- C22 operator did not indicate what material was imported to the site for rehabilitation. Council directs staff to request either from the operator directly or through a Freedom of Information request to the Ministry, how much fill was imported, as well as the laboratory testing to demonstrate it met applicable excess soil standards.

14) Schedule M – Licence 5710

- Council directs staff to advise the MNR and pit operator regarding the Township’s concerns that the location of the asphalt plant, washing plant and washing ponds are not identified on the current site plan that the Township has on record.

15) Schedule N – Licence 5737

- Council directs staff to request that the MNR remove Licence 5737 given this is a historic aggregate site with no aggregate activity, making it a property that is sheltered from Municipal By-laws.
- Council directs staff to confirm the status of licensed area of the site, determine the ownership of the unlicensed area and report back to Council regarding the current taxation classification of the licensed and unlicensed areas of the site.

16) Schedule O – Licence 5738

- Importation of Material from Aberfoyle Pit 2 (5609) which explicitly states material to be processed at Aberfoyle Pit 1 (5483)
- Council direct staff to advise the MNR and pit operator regarding the Township’s concerns:
 - i. Regarding a potential silt pond in violation of site plan. The site plan that the Township has on file identifies the silt pond for “start-up” purposes.
 - ii. That Dufferin utilizing the large pond as a passive silt deposition should require a major site plan amendment.

17) Schedule P – Licence 10671

- Council direct staff to request that Lafarge delegate at a future Council Meeting regarding why pit licence 10671 has not been surrendered given extraction has been completed at the site.



- Council direct staff to request that the MNR remove Licence 10671 given extraction is completed at the site.
- C22 operator did not indicate what material was imported to the site for rehabilitation. Council directs staff to request either from the operator directly or through a Freedom of Information request to the Ministry, how much fill was imported, as well as the laboratory testing to demonstrate it met applicable excess soil standards.

18) Schedule Q – Licence 15338

- Council direct staff to advise the MNR and pit operator regarding the Township's concerns regarding the additional building and storage containers located within the vicinity of the scale are not identified on the site plan.
- C22 operator did not indicate what material was imported to the site for rehabilitation. Council directs staff to request either from the operator directly or through a Freedom of Information request to the Ministry, how much fill was imported, as well as the laboratory testing to demonstrate it met applicable excess soil standards.

19) Schedule R – Licence 17600

- Council direct staff to advise the MNR and pit operator regarding the Township's concerns:
 - i. That the site plans indication of the requirement for an 80 m setback for the extractive area at the southwest concern of the site, and the Township's understanding that the area has been stripped and operations are occurring within 5-10 metres of the property line.
 - ii. Whether the berm on the site meets the requirements of the site plan.
- C22 operator did not indicate what material was imported to the site for rehabilitation. Council directs staff to request either from the operator directly or through a Freedom of Information request to the Ministry, how much fill was imported, as well as the laboratory testing to demonstrate it met applicable excess soil standards.

20) Schedule S – Licence 20012

- Council direct staff to advise the MNR and pit operator regarding the Township's concerns that the site plan indicated that the processing plan is to be located on the north westerly corner of



the site, however it is currently located on the southwest corner. Further, there are multiple processing plants/screening plants on site, whereas the site plan indicated one processing plan, asphalt plant and concrete plant are permitted.

- C22 operator did not indicate what material was imported to the site for rehabilitation. Council directs staff to request either from the operator directly or through a Freedom of Information request to the Ministry, how much fill was imported, as well as the laboratory testing to demonstrate it met applicable excess soil standards.

21) Schedule T – Licence 20085

- Council direct staff to advise the MNR and pit operator regarding the Township's concerns:
 - i. With the scales being removed vehicles entering highways may be overloaded. Noncompliance of site plan by not having scales where the site plan indicates
- Council directs staff to notify the County of Wellington that the entire site is stripped with only 4.2 HA being progressively rehab as indicated in D2. ARB ruling indicates lands stripped but not yet rehab are in the industrial tax class, to ensure majority of the site is in the industrial tax class
- C22 operator did not indicate what material was imported to the site for rehabilitation. Council directs staff to request either from the operator directly or through a Freedom of Information request to the Ministry, how much fill was imported, as well as the laboratory testing to demonstrate it met applicable excess soil standards.

22) Schedule V – Licence 624864

- Council direct staff to advise the MNR and pit operator regarding the Township's concerns regarding:
 - i. Noncompliance as the satellite imagery suggests this site has been utilized as a silt pond commencing the end of 2018, which would require a major site plan amendment required. The Township request that the MNR order cessation of activity in the pond.
 - ii. No extraction was identified on CAR report to explain water colour variation and it is an offence to submit CAR report not indicating the use of the pond as a silt pond or extraction activity on the license.



- C22 operator did not indicate what material was imported to the site for rehabilitation. Council directs staff to request either from the operator directly or through a Freedom of Information request to the Ministry, how much fill was imported, as well as the laboratory testing to demonstrate it met applicable excess soil standards.
- Council direct staff to request the MNR release the site plan amendment that was submitted in February 2023 through the appropriate record process.

23) Schedule X – Licence 624952

- Council direct staff to advise the MNR and pit operator regarding the Township’s concerns regarding:
 - i. The westerly berm has been removed which is not in compliance of the site plan.
 - ii. The fish farming structure is not indicated on the site plan.
- C22 operator did not indicate what material was imported to the site for rehabilitation. Council directs staff to request either from the operator directly or through a Freedom of Information request to the Ministry, how much fill was imported, as well as the laboratory testing to demonstrate it met applicable excess soil standards.

24) Schedule Y – Licence 625189

- Council direct staff to advise the MNR and pit operator regarding the Township’s concerns regarding:
 - i. The Township’s Hydrogeologist raised concerns that the berms were breached, not constructed to the appropriate level.
 - ii. The Silt barrier not functioning properly ongoing impacts to neighbours ponds and adjacent wet land
 - iii. In the general comments section of the CAR report the operator states that the pit was active during the 2025 compliance assessment. CAR Reports indicate Section B is to be completed for inactive sites and it is an offense to submit a false CAR report.
- Council direct staff to request that the MNR remove Licence 625189 given the site is inactive.

25) Schedule Z – Licence 625284



- Council direct staff to confirm that the upgrades to the pit have been completed to prevent tracking of material onto the road.
- Council direct staff to have the appropriate consultant review the rear slope and setback on the site plan to determine if extraction is occurring on the southern setback.
- C22 operator did not indicate what material was imported to the site for rehabilitation. Council directs staff to request either from the operator directly or through a Freedom of Information request to the Ministry, how much fill was imported, as well as the laboratory testing to demonstrate it met applicable excess soil standards.

26) Schedule BB – Licence 626648

- Council direct staff to advise the MNR and pit operator regarding the Township's concerns:
 - i. That structure 25 identified on the site plan as a woof frame stable is currently being used for commercial non-ancillary uses to the aggregate use of the property
- Council directs staff to notify the County of Wellington that the entire site is stripped with only 4.2 HA being progressively rehab as indicated in D2. ARB ruling indicates lands stripped but not yet rehab are in the industrial tax class, to ensure majority of the site is in the industrial tax class
- C22 operator did not indicate what material was imported to the site for rehabilitation. Council directs staff to request either from the operator directly or through a Freedom of Information request to the Ministry, how much fill was imported, as well as the laboratory testing to demonstrate it met applicable excess soil standards.

10.1 10:25 A.M. Presentation by Harden Environmental Services Limited regarding Mult aquifer Wells and Transport Pathways Study ≠

-report indicates that funding was provided the province through Wellington Source Water Protection. For future reference how was this funding obtained ie. such as applying for funds from an existing province program or?

p.495 there is an error message on the page. What is the section being referred?

p. 500 Recommendations

-recommendation 1. a Do we have a standard for well construction in Puslinch? Can we as a municipality specify well construction or is it the purvey of the Province?



It would be helpful if Stan could answer the following questions associated with the respective recommendations at the meeting

1. b How can this be best conveyed to the Province.
2. a What would be the cost for such a study and are there funding sources available?
2. b What would be the cost for such a study and are there funding sources available?
- 3.a How can this be accomplished?
3. b What would be the methodology to do this in Puslinch?

These questions have been provided to the Township's Hydrogeologist for response at the Council meeting. Staff have attached an updated version of the report to this Q&A document.

10.2 CBM Aberfoyle South Lake Pit Aggregate Resources Act Application 626630 – Objection

-regarding the second paragraph of the recommendation; what is the nature of the response that staff envision sending to the Province?

Since publication of the agenda, it has been determined that the Township will maintain its objection to the application. This position will be supported by the Township's technical review of the most recent submission of application materials.

HARDEN ENVIRONMENTAL SERVICES LIMITED



Multiaquifer Wells and Transport Pathways Study

**Wellhead Protection Areas
Wellington County, Ontario**

Prepared For:

Wellington Source Water Protection
7444 Wellington Road 21
Elora, Ontario N0B 1S0

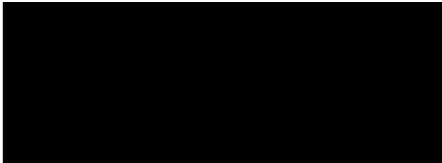
December 6, 2024

Harden File No. 2366

Record of Revisions

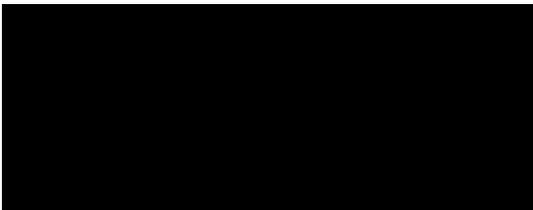
Revision	Date	Description of Changes
-	August 14, 2024	Final Report Submission
1	December 6, 2024	Minor edits per Client Review

Report Prepared By:



Angela M. Mason, M.Sc., P.Geo., QP_{ESA}
Senior Hydrogeologist

Report Reviewed By:



Stan Denhoed, P.Eng., M.Sc.
President and Senior Hydrogeologist

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Statement of Limitations

Harden Environmental Services Ltd. (HARDEN) conducted the work associated with this report in accordance with the scope of services, time and budget limitations imposed for this work. The work has been conducted according to reasonable and generally accepted local standards for an environmental consultant at the time of the work. No other warranty or representation, expressed or implied, is included or intended in this report.

It should be noted that subsurface conditions might vary at locations and depths other than those locations where borings, surveys or explorations were made by HARDEN or others. Other contaminants, not tested for in this work, may also potentially be present on the Site. Even with exhaustive investigation, it is not possible to warranty the Site will be free of other contaminants. Should conditions, not observed during the work, become apparent, HARDEN should be immediately notified to assess the situation and conduct additional work, where required. The findings of this report are based on conditions as they were observed at the time of the work. No assurance is made regarding changes in conditions subsequent to the time of the work.

Regulatory statutes are subject to interpretation. These statutes and their interpretation may change over time, thus these issues should be reviewed with appropriate legal counsel. HARDEN relied on information provided by others in this report. HARDEN cannot guarantee the accuracy, completeness and reliability of the information provided by others, although HARDEN staff attempted to seek clarification on information provided and verifies authenticity, where practical. The report and its attachments were prepared for and made available for the use of the client, their agents and Wellington Source Water Protection. HARDEN will not be responsible for any use or interpretation of the information contained in this report by any other party without the prior expressed written consent of HARDEN.

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Grand River Conservation Authority Data Disclaimers: “Produced using information under Licence with the Grand River Conservation Authority. Copyright © Grand River Conservation Authority, 2024.” and “Intellectual Property from GRCA: Centre Wellington Tier 3 geological surfaces created during the development of numerical groundwater flow model used in Source Protection studies and Wellington County Source Protection Shapefiles.”

City of Guelph Data Disclaimer: “City of Guelph Raster GIS files of hydrogeological surfaces contained within the City’s Groundwater Model.”

1.0 Introduction

Harden Environmental Services Ltd. (Harden) was commissioned by Wellington Source Water Protection, through funding provided by the Province of Ontario, to identify multiaquifer wells (MAW) and well clusters (transport pathways) within wellhead protection areas (WHPAs) in Wellington County. The study area is shown on Figure 1.

Although water wells are already identified as possible transport pathways in WHPAs, a detailed study of bedrock wells and their potential to transfer water either intra aquifer (within a specific geological formation) or inter aquifer (between two separate geological formations) has not been undertaken. This study is poignant given that all municipal water supplies in Wellington County rely on groundwater sources for drinking water.

This study identifies bedrock wells that penetrate more than one rock unit, including one or more rock units targeted by municipalities for their water supply (municipal aquifer). These wells provide opportunity for the rapid movement of groundwater and contaminants within the well from the other rock units into the municipal aquifer. The depressurization of the municipal aquifer by water taking for the municipality will increase this effect in the area of influence of the municipal well. This study also identifies clusters of wells (bedrock and overburden) that were drilled prior to 1990, when the sealing of the well annulus was not required under an Ontario regulation.

MAW are wells that are installed with an open wellbore in a bedrock aquifer or screened across two or more aquifer units in the overburden. A conceptual MAW is shown on Figure 2 including descriptions of various water well components. MAW provide a connection across multiple water-bearing strata that have different water levels and hydraulic properties, which could otherwise be considered isolated aquifer systems physically separated by an aquitard unit. MAW are an anthropogenic alteration to the aquitard which can allow passive transport of groundwater and potential contaminants between aquifer systems, which may move either upward or downward depending on aquifer properties and other nearby groundwater users.

Within the area of influence of pumping wells taking large volumes of water from deep aquifer systems, the induced hydraulic gradient can allow significant movement of groundwater between aquifers through MAW. Under this induced gradient in a multi aquifer situation, MAW represent a water quality threat to the lower aquifer and a water quantity threat to the upper aquifer. MAW, outside of the area of pumping influence, are not interpreted to represent the same risk due to the absence of the constant induced gradient surrounding pumping wells (e.g., municipal supply wells, private water bottling facilities, etc.); the volume of movement would be negligible or caused only during pumping of the household pump and captured by the pump.

1.1 Background

There are fourteen municipal well systems in Wellington County, and in addition, WHPAs from the Region of Halton, City of Hamilton, City of Guelph and Region of Waterloo extend into the County. Each of these systems have permitted water takings under Ontario Regulation 387/04.

A municipal well system, either as a single well or multiple wells, removes significant quantities of groundwater from the aquifer(s), which induces groundwater flow to the well and creates an area of influence around the well or well field.

The dolostone/limestone aquifers in Wellington County have an approximate porosity of 6%, or less. Porosity is the open space between individual grains (minerals) that make up the rock body and in general, these open spaces are not sufficiently connected to allow for the movement of significant quantities of groundwater. Chemical dissolution of fractures, bedding plane weaknesses and tectonic forces occurring over millions of years after rock formation, have however, created pathways through the solid rock, not only interconnecting the natural porosity, but also the individual fracture or interconnected fractures to become the major pathways of water movement through the rock body. Therefore, when a municipal well begins to remove water from the aquifer (by reducing hydrostatic pressure inside the well), water under greater hydrostatic pressure in the surrounding aquifer flows towards the well. The fractures in the bedrock aquifers in Wellington County can be well-connected and as water is drawn into each municipal well, groundwater flows through a lengthy and complex network of fractures. All conditions being equal, groundwater flow towards a well preferentially occurs from where the hydrostatic pressure is greatest. This often results in elongated ovoid shaped WHPAs which extend from the well towards where the water column has the greatest thickness above the point of water taking (pump setting).

In a fractured bedrock setting, fractures neither occur equally throughout the rock body nor have the same transmissivity. It is thus possible to have areas of preferential flow within an aquifer that deliver a greater quantity of water to a well. An example is the “production” zone in the Gasport Aquifer beneath the City of Guelph and the Township of Puslinch. There is a recognized section of this geological formation that has greater persistence of open fractures allowing for higher quantities of water delivery to wells.

It is also well-documented that individual geological formations or sections of a geological formation can have limited fractures. The Vinemount Member of the Eramosa Formation, for example, is recognized as being an effective barrier for vertical groundwater flow in the City of Guelph, Township of Guelph Eramosa and Township of Puslinch. This aquitard limits the flow of water to municipal wells; however, it also limits the potential migration of contaminants from a shallow aquifer system to a deeper aquifer system. The geological contact between the Guelph Aquifer and the Eramosa Formation aquitard is shown on Figure 4.

Aquitards can also occur within an aquifer. For example, an unfractured section of the Guelph Formation was penetrated by a private well in the Township of Puslinch and intersected a large open

fracture below. This resulted in a flowing artesian well near the intersection of Wellington County Road 34 and the Hanlon Expressway. This unfractured rock body prevented water from being released, until the open well bore provided a pathway. There are many other examples where wellbores penetrate natural barriers to groundwater flow that are readily recognized, such as the Middlebrook Well in Centre Wellington, another flowing artesian well. In these cases, the well can be readily identified, decommissioned or controlled.

While flowing artesian conditions are easily recognized, subsurface intraflow within an aquifer or interflow between separate aquifers (i.e., through a MAW) is not as easily recognized when a well is drilled. The introduction of drilled wells within the area of influence of a municipal well can short-circuit the natural pathway of groundwater flow in a rock body or between multiple rock units by interconnecting the horizontal fractures. This essentially allows for unlimited flow between two or more previously unconnected fracture systems.

This may be an advantage to a municipal well as the MAW provides an opportunity for a greater volume of water to travel with greater ease to the well. However, it also presents a disadvantage where the water quality of water travelling through the MAW is of poor quality or contaminated anthropogenically.

The identification of MAW is thus important, not only for the protection of municipal groundwater supplies but also for the preservation of water quality in deeper aquifers. The role of the municipal well systems and large permitted groundwater takers in the inter- and intra-aquifer movement of groundwater must also be recognized. In the absence of the induced gradient, the intra and inter aquifer movement of water would not be the same. Proactively identifying MAW within areas of existing prolonged aquifer drawdown may provide an opportunity to protect against the potential future threat of contaminant migration into deeper aquifer systems.

2.0 Methodology

The Clean Water Act, 2006, included the establishment of the Drinking Water Source Protection Program by The Province of Ontario. The purpose of this program was to define, in part, the locations where water originating as rainfall and infiltrating into the porous ground or originating as a surface water and infiltrating through the base of the river, stream, pond or lake eventually made its way to a municipal well. The Source Water Protection program has also influenced land development policies that are now used in Wellington County.

WHPAs are one of four main types of vulnerable areas identified in the Clean Water Act, 2006. Given that municipal land use planning precluded Source Water Protection planning, the WHPAs include areas occupied by residential, industrial, institutional and rural land uses. In an ideal setting, the municipal wells would be located away from potential contaminant sources, including both obvious sources of contamination (e.g., landfill sites, salt storage areas) and less obvious (e.g., leaking underground storage tanks or historic contaminant spills). The intention of Source Water Protection

Planning is to identify sources of existing contamination and limit the potential for future contamination.

Part of the Source Water Protection Program was to identify potential anthropogenic transport pathways. These are areas where natural protection for the aquifers has been diminished, compromised or eliminated, thereby allowing for rapid movement of contaminants from the ground surface to the drinking water sources. These can include excavations, foundations, geothermal wells, water wells, quarries and pits.

This study focuses on the identification of water wells, registered on the Ministry of the Environment, Conservation and Parks (MECP) Water Well Records (WWR) database (MECP, 2024a), that are potential transport pathways.

2.1 Study Area

The study area, for both the MAW and transport pathways, includes all wellhead protection areas (WHPA) within Wellington County (study area; Figure 1).

The study area is limited to WHPA-A, B, C and D areas within Wellington County, including various subwatersheds [Upper Grand River, Lower Grand River, Bronte Creek (Upper Main Bronte & Mountsberg), Credit River, Saugeen River] and spanning six source protection areas (Grand River, Credit Valley, Maitland Valley, Saugeen Valley, Hamilton and Halton).

The study area includes the following WHPAs:

- Guelph Eramosa Township WHPAs
 - Hamilton Drive Supply Wells
 - Rockwood Supply Wells
- Town of Erin WHPAs
 - Erin Supply Wells
 - Bel-Erin Supply Wells
 - Hillsburgh Supply Wells
- Township of Centre Wellington Supply Wells
 - Elora Supply Wells
 - Fergus Supply Wells
- Township of Mapleton WHPAs
 - Drayton Supply Wells
 - Moorefield Supply Wells
- Township of Wellington North WHPAs

- Arthur Supply Wells
- Mount Forest Supply Wells
- Town of Minto WHPAs
 - Harriston Supply Wells
 - Minto Pines Subdivision Supply Well
 - Clifford Supply Wells
 - Palmerston Supply Wells
- City of Guelph WHPAs
 - City of Guelph Supply Wells within the City of Guelph, Township of Puslinch and Guelph Eramosa Township
- Region of Waterloo (City of Cambridge)
 - WHPAs extending into the Township of Puslinch
- City of Hamilton
 - Freelon WHPAs extending into the Township of Puslinch
- Halton Region (Township of Halton Hills)
 - Acton Supply Well and WHPAs extending into the Town of Erin
 - Georgetown WHPAs extending into the Town of Erin

2.2 Study Objectives

The objectives of the study included:

1. Identify MAW within the study area, with the primary focus on the Township of Puslinch and Guelph Eramosa Township (GET). Areas in the north part of Wellington County were evaluated, but if the initial assessment determined the absence of deep municipal production wells and/or hydrostratigraphic review does not identify multiple aquifer zones separated by a distinct aquitard, additional analyses were not required.
2. Identify transport pathways (well clusters) based on the Conservation Ontario Guidance Document, particularly clusters of wells constructed before 1990 with a reported margin of error of a well's location of 30 m or less. We understand that this information may assist Wellington Source Water Protection with updates to vulnerability scoring in the study area.

2.3 Assessment Approach

Harden completed the study as a desktop review in two parts for the MAW study and the transport pathways study. The MAW study included review of the following records:

- MECP WWR;

- Geological mapping and published works relating to local geology/hydrogeology;
- Geological model layer shapefiles provided through data sharing agreements with Wellington County¹, the Grand River Conservation Authority² and the City of Guelph³;
- Hydrogeological reports including Tier 3 groundwater studies, pumping tests and monitoring reports within WHPAs in the study area (as available and as practicable within the allotted budget); and,
- Other studies relating to local and regional aquifer units, municipal well information and MAW.

2.3.1 Overburden Wells

This study does not identify MAW that are completed in unconsolidated sediments. Identifying MAW within overburden aquifers is not feasible at a regional scale given the current reliability of overburden aquifer surface modeling, and would require a detailed review of hydrostratigraphy within each individual MECP WWR.

Although a water well completed in unconsolidated sediments can intersect multiple aquifers, it is rare that the well is screened within more than one aquifer. The water yield in an overburden well comes only from the screened portion of the well. For normal household wells, this is generally between one and two metres of screen and for a municipal well it can be several metres. Groundwater movement to the well then occurs primarily in the porous media adjacent to the well screen and even if another well penetrates the same unconsolidated aquifer, the well will be sealed to prevent the movement of water along the annulus. Please refer to Figure 2 for components of well construction.

With suitable sealing of the well annulus, movement of water through a well or in the well annulus between unconsolidated aquifers should not occur. Thus, for unconsolidated aquifers, R.R.O. 1990,

¹ County of Wellington Data Disclaimers: “Produced using DRAFT information from the Lake Erie Source Protection Region.” and “Copyright Wellington County 2023. All rights reserved. May not be reproduced without permission. This is not survey data.”

² Grand River Conservation Authority Data Disclaimers: “Produced using information under Licence with the Grand River Conservation Authority. Copyright © Grand River Conservation Authority, 2024.” and “Intellectual Property from GRCA: Centre Wellington Tier 3 geological surfaces created during the development of numerical groundwater flow model used in Source Protection studies and Wellington County Source Protection Shapefiles.”

³ City of Guelph Data Disclaimer: “City of Guelph Raster GIS files of hydrogeological surfaces contained within the City’s Groundwater Model.”

Regulation 903: Wells, under the Ontario Water Resource Act (O. Reg. 903) provides adequate protection for wells drilled through multiple aquifers in an unconsolidated setting.

2.3.2 Bedrock Wells

Bedrock wells are required by O. Reg. 903 to be sealed into the rock to prevent impairment of groundwater and water in the well. Therefore, O. Reg. 903 generally protects water from moving from an unconsolidated aquifer into a bedrock aquifer well. This may not be effective where there is a contact aquifer (i.e., fractured/weathered top of bedrock) that is in direct connection with the overburden.

The yield of a bedrock well, unlike an overburden well, is the sum of water flowing through all fractures encountered by the wellbore. The well construction is terminated when an adequate water supply is determined by the well driller. An adequate water supply for a household well is generally considered to be one greater than 12 litres per minute. In this way, the depth of a bedrock well is not “predetermined” and thus the length of the open wellbore is unknown prior to drilling. This open wellbore is the subject of this study. Household wells are typically drilled with a diameter of 150 mm. Municipal wellbores can be 300 mm in diameter.

Figure 3 depicts a part of the Gasport Aquifer near Rockwood Well No. 3 and shows the distribution of fractures identified in locally drilled wells. In this area it is shown that fractures occur with the greatest frequency between 330 and 350 m above mean sea level (m AMSL) and this area is targeted by local private wells.

It is not uncommon to hear water cascade into a well during a pumping test of a bedrock well. This is the free falling of water from a fracture. The flow of water from the fracture is not limited by the size of the wellbore, but by the openness of the fracture itself. Where induced gradients occur in a wellbore from external water taking, this intra-well movement of water may not be obvious as cascading, but will be an underwater movement within the wellbore. The intra-well movement of water through an open wellbore can be hundreds of gallons per minute.

2.3.3 Transport Pathways (Well Clusters) Approach

In accordance with Part IV and Part VI of the Director’s Technical Rules pertaining to transport pathways, the study included a review of available water well data in an effort to identify potential transport pathways and their impact on the vulnerability of municipal drinking water wells in the study area. The study was generally aligned with the Conservation Ontario (2023) Transport Pathways Guidance Document.

Harden completed a desktop mapping/modeling exercise using the MECP WWR database and WHPA-A, B, C and D layers.

For the purposes of this study, clusters of wells were defined as:

1. Clusters of six or more wells within a 100 m radius, with at least one well within the cluster located within any of the WHPA-A, B, C or D zones;
2. Wells constructed prior to the inception of R.R.O. 1990, Regulation 903: Wells (Reg. 903); and,
3. MECP WWR with a reported margin of error of a well's location of 30 m or less.

We note that the Conservation Ontario (2023) Guidance Document contains both the Halton-Hamilton Source Protection Region and Credit Valley Toronto and Region Central Lake Ontario (CTC) Source Protection Region methods, which have differences in assessment methodology relating to well depth and intrinsic vulnerability. For the purposes of this study, the following additional requirements were added to the definition of well clusters:

4. Wells with a depth that is within 3 m of the municipal supply aquifer unit (in accordance with the CTC assessment method). Note that the accuracy of this method is dependent on the availability of geological layer mapping/modeling data.
5. Wells will not be excluded on the basis of aquifer vulnerability (in accordance with the Halton-Hamilton assessment method); i.e., wells within areas that already scored as high vulnerability were not excluded.

The data are presented as figures showing each WHPA with MAW and well cluster locations, and identification of each MECP WWR identified as a MAW or within a cluster. The results are summarized in Sections 6.0 and 7.0.

3.0 Data Sources

3.1 Source Water Protection Data

Source water protection data was obtained from the MECP Source Protection Information Atlas (2024b) for WHPA names, locations and details. WHPA shapefiles for Wellington County were also obtained from the County of Wellington⁴ for incorporation into the hydrostratigraphic models and figures prepared as part of this study.

3.2 Hydrostratigraphic Models

Hydrostratigraphic modeling was previously completed as part of Tier 3 models for several of the Source Water Protection areas. The delineation of the contact elevations for the various aquifer and

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aquitard formations in this study was provided by the GRCA Tier 3 Model for Centre Wellington⁵ and the City of Guelph⁶ Tier 3 Model. The contacts from each model were picked as summarized in the following table. Although the two models were prepared for different areas in Wellington County/City of Guelph, there was some overlap. In these areas, surfaces from the City of Guelph Model were used rather than the GRCA model. The two models included the same geological stratigraphy, however, as shown on Table 1, the same surface was identified as the top of the geological formation in the City of Guelph Model and the bottom of the geological unit in the GRCA model.

Table 1: Tier 3 Model Units

Geological Unit	Groundwater Model	Model Layer
Guelph	GRCA	Bottom of Guelph Formation
Guelph	City of Guelph	Top of Reformatory Quarry
Goat Island	GRCA	Bottom of Vinemount Member
Goat Island	Guelph	Top of Goat Island Formation
Cabot Head	GRCA	Bottom of Gasport Formation
Cabot Head	Guelph	Top of Cabot Head Formation

There was little overlap between the model boundaries, but where this occurred, the surface elevation created by the City of Guelph model was used.

The majority of WHPAs occur within the GRCA/City of Guelph model boundaries. For areas outside of the GRCA and City of Guelph model boundaries, geological picks were made from consultant reports or a review of individual MECP WWR.

The top of rock layer across the study area was obtained from the Ontario Geological Survey (OGS) which is based on the top of rock value reported in the MECP WWR database.

The geological picks from the models were converted to individual points with an elevation and northing and easting to create a three-dimensional geological surface for each geological unit using the Viewlog™ software. Raster based surfaces were created through a Viewlog™ kriging process with the following option settings:

⁵ Grand River Conservation Authority Data Disclaimers: “Produced using information under Licence with the Grand River Conservation Authority. Copyright © Grand River Conservation Authority, 2024.” and “Intellectual Property from GRCA: Centre Wellington Tier 3 geological surfaces created during the development of numerical groundwater flow model used in Source Protection studies and Wellington County Source Protection Shapefiles.”

⁶ City of Guelph Data Disclaimer: “City of Guelph Raster GIS files of hydrogeological surfaces contained within the City’s Groundwater Model.”

METHOD: Full Kriging
 VARIOGRAM TYPE: Linear
 KRIGING ORDER: 0
 SLOPE: 0

The geological surfaces in Viewlog™ were created on a 10 m x 10 m grid throughout Wellington County.

3.3 Water Well Records Database

The MECP (2024a) WWR database was used in this study.

Countywide, there are a total of 21,408 registered water wells of which 14,308 are bedrock wells. The distribution of these wells is shown on Figure 5.

The fine details of well casing depth and aquifer descriptions were not reviewed as part of this study, and it was assumed that all identified MAW are constructed as open bedrock wells from the top of bedrock to the bottom of the well.

3.4 Data Gaps and Limitations

- This study was completed as a desktop review using available MECP and OGS data, geological models provided by the City of Guelph and GRCA, and WHPA shapefiles from Wellington County. The accuracy of the analyses may be limited by the following: Data accuracy and spatial distribution was variable across data sources and required manual manipulation using various data picks from different sources to compile a continuous dataset for Wellington County.
- The fine details of MECP WWR such as well casing depth and aquifer descriptions are not fully digitized. As such, filtering the database for deep bedrock wells open across multiple aquifers versus cased into the lower bedrock is not yet possible digitally and would require review of individual MECP WWR, which was not completed as part of this study.
- WHPAs were based on shapefiles provided by Wellington County in 2024. It is noted that WHPAs may change over time as water taking needs evolve and new data becomes available.

4.0 Municipal Wells

4.1 Municipal Well Systems in Wellington County

The urban centers include Rockwood, Erin, Hillsburgh, Elora/Salem, Fergus, Clifford, Mount Forest, Harriston, Palmerston, Drayton, Moorefield, Arthur. By definition, the urban centers coincide with municipal water systems. According to the Phase 1 MCR Report (Watson & Associates Economists Ltd., 2022) the population of the urban centers was 46,900 and that of the rural areas was 53,800.

Water supply for each of these urban centers comes from groundwater with some water supply wells decades old. The twelve urban centers in Wellington County are identified on Figure 1.

4.2 Wellington County Aquifers

An aquifer is a saturated, permeable, geologic unit that can transmit and store significant quantities of water under ordinary hydraulic gradients, and yield water to wells and springs in economically usable amounts (Freeze and Cherry, 1979). By this definition and following Carter et.al. (2022), the hydrostratigraphic units in Wellington County are outlined in the following table.

Table 2: Wellington County Hydrostratigraphic Units

Former Name	Formation Name	Member	Hydrostratigraphic Unit Type
Onondaga Formation			Aquifer
Bois Blanc Formation			Aquifer
Bass Island Formation			Aquitard
Salina Formation			Aquifer/Aquitard
Guelph Formation (Guelph Member)	Guelph Formation	Hanlon Formation	Aquifer
		Wellington Member	Aquifer
Guelph Formation (Eramosa Member)	Eramosa Formation	Stone Road Member	Aquifer/Aquitard*
		Vinemount Member	Aquitard*
		Reformatory Quarry Member	Aquifer
	Goat Island Formation	Ancaster Member	Aquifer
Amabel (unsubdivided)	Niagara Falls Member	Niagara Falls Member	Aquifer
		Gasport Formation	Gothic Hill Member
	Lions Head		Aquitard
	Irondequoit		Aquitard
Reynales Formation	Rockway		Aquitard
	Merritton		Aquitard
Cabot Head Formation	Cabot Head Formation		Aquitard

*Aquifers where karstic at near surface

The surficial distribution of the geological formations are shown on Figure 5. Vinemount and Reformatory Quarry members of the Eramosa formation are relatively thin geological units that occur at the Goat Island/Guelph Formation contact. All geological formations in this area are dipping 3 to 6 m/km to the southwest as shown on the cross section (Figure 6).

A contact aquifer is often identified within the upper five metres of the bedrock where millennia of weathering and glacial activity often creates a zone of greater fracturing or solution enhanced

openings. Karst is also identified in Wellington County, not only where the bedrock is presently exposed at the ground surface, but also at depth originating closer to the time of bedrock formation.

The Vinemount Member and Reformatory Quarry Member of the Eramosa Formation do not always present as an aquitard and are known to be absent in certain parts of Wellington County. We have assumed for the purposes of this study that the Eramosa Formation occurs throughout the study area.

5.0 Municipal Well Source Aquifers and Multiaquifer Well Risk

The majority of municipal supply wells in Wellington County are installed in bedrock aquifer units. The source aquifer units for each municipal WHPA are interpreted as follows:

- City of Guelph: All WHPAs are interpreted as water takings from the Gasport Fm, with an induced downward gradient between the Gasport Fm and the upper Guelph Fm. The entire WHPA-D is interpreted as a MAW risk area.
- Hamilton Drive (Guelph Eramosa Township): Just north of the City of Guelph, the two Hamilton Drive supply wells are installed within the Guelph Fm to Gasport Fm. With the potential for an induced downward gradient between the Gasport Fm and the upper Guelph Fm., the Hamilton Drive WHPA-D areas are interpreted as MAW risk areas.
- Rockwood (Guelph Eramosa Township): The Rockwood supply wells are installed within the Gasport Fm, with the upper Guelph Fm absent in most of the area with no potential for induced drawdown. However, the western lobe of the WHPA-D extends into an area of thin Guelph Fm overlying the Gasport Fm. MAW within the WHPA-D in this area may therefore potentially be subjected to an induced downward gradient from the Rockwood supply wells.
- Erin (Town of Erin): The three Erin supply wells are installed within the Gasport Fm, with the upper Guelph Fm absent in the area. As such, no MAW risk is interpreted in the Erin WHPAs.
- Hillsburgh (Town of Erin): The two Hillsburgh supply wells are installed within the Gasport Fm, with the upper Guelph Fm absent or interpreted as very thin in the area. As such, no MAW risk is interpreted in the Hillsburgh WHPAs.
- Elora and Fergus (Township of Centre Wellington): The Elora and Fergus supply wells are installed between the Guelph Fm to the Goat Island Fm and Gasport Fm. The Vinemount Member of the Eramosa Formation is also generally absent from the area. All WHPAs are interpreted as potential induced downward gradient areas the Gasport Fm and the upper Guelph Fm. The entire WHPA-D is interpreted as a MAW risk area.
- Arthur (Township of Wellington North): The three Arthur supply wells are installed within sand and gravel overburden above the Salina Fm. No MAW risk is interpreted in the Arthur WHPAs.
- Mount Forest (Township of Wellington North): Three of the four Mount Forest supply wells are installed within the Guelph Fm, with the fourth supply well installed in the upper Salina Fm. The

supply wells within the Guelph Fm may create an induced downward gradient between the Salina Fm and lower Guelph Fm. The Mount Forest WHPA-D is interpreted as a MAW risk area.

- Clifford (Town of Minto): Two of the Clifford supply wells are installed within the Salina Fm and one well is installed within sand and gravel overburden. No MAW risk is interpreted in the Clifford WHPAs.
- Minto Pines Subdivision (Town of Minto): A single bedrock well installed in the Salina Fm services the Minto Pines Subdivision. No MAW risk is interpreted in the Minto Pines Subdivision WHPA.
- Harriston (Town of Minto): The three Harriston supply wells are believed to be installed within the Salina Fm. No MAW risk is interpreted in the Harriston WHPAs.
- Palmerston (Town of Minto): The four Palmerston supply wells are installed within the Salina Fm. No MAW risk is interpreted in the Palmerston WHPAs.
- Moorefield (Mapleton Township): The two Moorefield supply wells are installed within the Salina Fm. No MAW risk is interpreted in the Moorefield WHPAs.
- Drayton (Mapleton Township): The two Drayton supply wells are installed within the Salina Fm. No MAW risk is interpreted in the Drayton WHPAs.

The following additional WHPAs originate from water takings outside Wellington County, but have WHPAs that extend into the County:

- Cambridge (Region of Waterloo): The WHPAs from the Cambridge Supply Wells extend across the southwestern boundary of Wellington County. All WHPAs are interpreted as water takings from the Gasport Fm, with an induced downward gradient between the Gasport Fm and the upper Guelph Fm. The entire WHPA-D is interpreted as a MAW risk area.
- Freelton (City of Hamilton): The WHPA from the Freelton Supply Wells extends across the southern boundary of Wellington County. The Freelton wells are installed within the Gasport Fm, with the upper Guelph Fm absent in the area. As such, no MAW risk is interpreted in this WHPA.
- Acton (Halton Region): The WHPAs from the Acton Supply Wells extend across the southeastern boundary of Wellington County. The Acton wells are installed within the Gasport Fm, with the upper Guelph Fm absent in the area. As such, no MAW risk is interpreted in the Acton WHPAs.

The details for each WHPA are summarized in the following table.

Table 3: WHPA Aquifer Details and MAW Risk

WHPA Name	Number of WHPAs (within Wellington)	Municipality	County	Source Protection Area (Region)	Water Supply Aquifer	MAW Risk
Guelph	8	Puslinch	Wellington			Yes

WHPA Name	Number of WHPAs (within Wellington)	Municipality	County	Source Protection Area (Region)	Water Supply Aquifer	MAW Risk
	16	Guelph		Grand River (Lake Erie)	Gasport / Goat Island (Amabel)	
	1	Guelph-Eramosa				
Hamilton Drive	2	Guelph-Eramosa	Wellington	Grand River (Lake Erie)	Guelph / Eramosa (Reformatory Quarry Mbr) (1 well) Guelph / Middle Gasport (1 well)	Yes
Rockwood	4	Guelph-Eramosa	Wellington	Grand River (Lake Erie)	Middle Gasport	Yes
Erin	3	Erin	Wellington	Credit Valley (CTC)	Gasport / Goat Island (Amabel)	No
Hillsburgh	2	Erin	Wellington	Credit Valley (CTC)	Gasport / Goat Island (Amabel)	No
Township of Centre Wellington (Elora)	3	Centre Wellington	Wellington	Grand River (Lake Erie)	Guelph Fm to Gasport Fm, Gothic Hill Mbr (1 well) Guelph Fm to Goat Island Fm, Ancaster Mbr (2 wells)	Yes
Township of Centre Wellington (Fergus)	6	Centre Wellington	Wellington	Grand River (Lake Erie)	Guelph Fm to Gasport Fm, Gothic Hill Mbr (3 wells) Guelph Fm to Goat Island Fm, Ancaster Mbr (2 wells)	Yes
Arthur	3	Wellington North	Wellington	Grand River (Lake Erie)	Sand & Gravel Overburden	No
Mount Forest	4	Wellington North	Wellington	Saugeen Valley (Saugeen, Grey Sauble, Northern Bruce Peninsula)	Salina Fm (1 well) Guelph Fm (3 wells)	Yes

WHPA Name	Number of WHPAs (within Wellington)	Municipality	County	Source Protection Area (Region)	Water Supply Aquifer	MAW Risk
Clifford	3	Minto	Wellington	Saugeen Valley (Saugeen, Grey Sauble, Northern Bruce Peninsula)	Sand & Gravel Overburden (1 well) Salina Fm (2 wells)	No
Minto Pines Subdivision	1	Minto	Wellington	Saugeen Valley (Saugeen, Grey Sauble, Northern Bruce Peninsula)	Salina Fm	No
Harriston	3	Minto	Wellington	Maitland Valley (Ausable Bayfield Maitland Valley)	Salina Fm	No
Palmerston	4	Minto	Wellington	Maitland Valley (Ausable Bayfield Maitland Valley)	Salina Fm	No
Moorefield	2	Mapleton	Wellington	Grand River (Lake Erie)	Salina Fm	No
Drayton	2	Mapleton	Wellington	Grand River (Lake Erie)	Salina Fm	No
Freelton	2	Hamilton	Hamilton	Halton Region (Hamilton-Halton)	Gasport / Goat Island (Amabel)	No
Cambridge	8	Cambridge	Waterloo	Grand River (Lake Erie)	Gasport / Goat Island (Amabel)	Yes

WHPA Name	Number of WHPAs (within Wellington)	Municipality	County	Source Protection Area (Region)	Water Supply Aquifer	MAW Risk
Acton	3	Halton Hills	Halton	Credit Valley (CTC)	Gasport / Goat Island (Amabel)	No

In summary, based on the interpreted source aquifers for each municipal WHPA, the following WHPA-D areas are interpreted as having an actual or potential induced downward gradient, and would therefore be considered MAW risk areas:

- City of Guelph
- Hamilton Drive (Guelph Eramosa Township)
- Rockwood (Guelph Eramosa Township)
- Elora and Fergus (Township of Centre Wellington)
- Mount Forest (Township of Wellington North)
- Cambridge (Region of Waterloo)

6.0 Multiaquifer Well Study Results

Based on our review of MECP WWR (2024a), over 14,300 bedrock supply wells currently exist in Wellington County. The distribution of potential MAW within the study area is shown on Figures 7 and 8, as interpreted based on the assessment approach described in Section 2 using available geological model data and MECP WWR.

The distribution of MAW within each WHPA that was identified to have MAW risk is shown on Figures 9 through 14, with details of each identified MECP WWR provided in Appendix A. A total of 758 wells within Wellington County WHPAs were interpreted as potential MAWs, as summarized in the following table. Note that potential MAW identified outside WHPAs were not counted as part of this study.

Table 4: Wellington County Multiaquifer Wells

WHPA	MAW Aquifers	Number of MECP WWR Identified as MAW
Hamilton Drive (Guelph Eramosa Township)	Guelph Fm to Gasport/Goat Island Fm	0
Rockwood (Guelph Eramosa Township)	Guelph Fm to Gasport/Goat Island Fm (west side of WHPA only)	14
Elora and Fergus (Township of Centre Wellington)	Guelph Fm to Gasport/Goat Island Fm	76

WHPA	MAW Aquifers	Number of MECP WWR Identified as MAW
Mount Forest (Township of Wellington North)	Salina Fm to Guelph Fm	5
City of Guelph	Guelph Fm to Gasport/Goat Island Fm	610
Cambridge (Region of Waterloo)	Guelph Fm to Gasport/Goat Island Fm	15
Cambridge & City of Guelph (overlapping WHPAs)	Guelph Fm to Gasport/Goat Island Fm	38
Total potential MAW in Wellington County		758

The identified potential MAW were installed between 1945 and 2021 to depths of up to 230 m.

7.0 Transport Pathways (Well Clusters) Study Results

Well clusters within this study were defined as:

1. Clusters of six or more wells within a 100 m radius, with at least one well within the cluster located within any of the WHPA-A, B, C or D zones;
2. Wells constructed prior to the inception of R.R.O. 1990, Regulation 903: Wells (Reg. 903);
3. MECP WWR with a reported margin of error of a well’s location of 30 m or less;
4. Wells with a depth that is within 3 m of the municipal supply aquifer unit (in accordance with the CTC assessment method); and
5. Wells were not excluded on the basis of aquifer vulnerability (in accordance with the Halton-Hamilton assessment method).

The clusters were identified by comparing the location of each pre-1990 well to the location of all other pre-1990 wells in the database that meet the above criteria. A total of eleven well clusters were identified in Wellington County using the above criteria. There are three clusters in Center Wellington within the Elora 1 municipal well WHPA, four clusters in Guelph-Eramosa within the Emma Well WHPA and four clusters in the Town of Erin within the Bel-Erin WHPA. The clusters were determined with an algorithm that calculated the distance between each well and its nearby wells and new cluster was identified when five or more nearby wells were within one hundred metres. This led to duplication and each community cluster does contain one or more wells from another nearby cluster, but also contains at least one unique well. There are a total of forty-four wells, all drilled prior to 1990, all with location reliability of 30 metres or less and are completed within three metres of the municipal aquifer. Each MECP WWR within the well cluster is listed in the following table and shown on Figures 15, 16 and 17.

Table 5: Wellington County Well Cluster Records

Municipal Well	Cluster	Well ID	Northing	Easting
Elora 1	CW1	6709734	4838398	544974
		6709830	4838334	544983
		6709795	4838430	544915
		6709921	4838452	544933
		6709873	4838432	545047
		6709922	4838308	544948
	CW2	6709794	4838386	544866
		6709801	4838355	544842
		6710165	4838391	544804
		6709795	4838430	544915
		6709872	4838448	544833
		6709800	4838336	544813
	CW3	6709921	4838452	544933
		6709801	4838355	544842
		6709800	4838336	544813
		6709794	4838386	544866
		6710165	4838391	544804
		6709799	4838315	544795
Bel Erin	E1	6709872	4838448	544833
		6709901	4845620	576225
		6709609	4845593	576179
		6709968	4845682	576225
		6709608	4845614	576136
		6709599	4845708	576201
	E3	6709601	4845657	576139
		6709600	4845797	576067
		6709112	4845775	576062
		6709598	4845824	576080
		6709403	4845787	576023
		6709596	4845808	576131
	E5	6709591	4845860	576132
		6709597	4845775	576161
		6709597	4845775	576161
		6709596	4845808	576131
		6709599	4845708	576201
		6709402	4845823	576233
		6709591	4845860	576132

Municipal Well	Cluster	Well ID	Northing	Easting
		6709598	4845824	576080
		6709600	4845797	576067
		6709112	4845775	576062
	E7	6709591	4845860	576132
		6709596	4845808	576131
		6709598	4845824	576080
		6708391	4845934	576148
		6708392	4845939	576167
		6709597	4845775	576161
		6709600	4845797	576067
Emma (Guelph)	G1	6709919	4825484	557517
		6708418	4825480	557515
		6709253	4825471	557530
		6708730	4825467	557499
		6709870	4825440	557513
		6709350	4825471	557474
		6708775	4825546	557490
		6708442	4825446	557453
		6708777	4825499	557606
		6708778	4825393	557499
		6708776	4825389	557486
	G2	6709870	4825440	557513
		6708730	4825467	557499
		6709253	4825471	557530
		6708418	4825480	557515
		6709919	4825484	557517
		6708778	4825393	557499
		6709350	4825471	557474
		6708776	4825389	557486
		6708442	4825446	557453
	G7	6708774	4825357	557538
		6708775	4825546	557490
		6708563	4825583	557502
		6709919	4825484	557517
		6708418	4825480	557515
		6709350	4825471	557474
		6708730	4825467	557499
	G8	6709253	4825471	557530
		6708774	4825357	557538

Municipal Well	Cluster	Well ID	Northing	Easting
		6708778	4825393	557499
		6708776	4825389	557486
		6709870	4825440	557513
		6708731	4825383	557627
		6707902	4825374	557636

No other well clusters were identified within Wellington County WHPAs based on the cluster definition outlined above.

8.0 Discussion

There is significant potential for inter-aquifer movement of groundwater via open wellbores in Wellington County. The areas of low hydraulic potential within one or more bedrock aquifers created by municipal water taking will induce flow through the open wellbores from one fracture system to another. This may transmit contaminants from an otherwise poorly connected fracture system directly into the municipal aquifer. Of greatest concern is the movement of anthropogenic sourced contamination from shallow systems to deeper aquifers. Similarly, the induced drawdown in lower aquifer systems by municipal wells may slowly dewater the upper aquifers through open wellbores.

This study has identified 758 MAWs that occur within WHPAs in Wellington County. These WHPAs are defined by travel times through the aquifer as determined from an equivalent porous media groundwater model. However, in reality, individual fractures are mainly responsible for the delivery of groundwater to the municipal wells and the introduction of a MAW introduces an opportunity to significantly decrease the travel time by interconnecting numerous fractures.

There are an additional 899 MAWs that occur in Wellington County that may be within the area of influence of a municipal well or other major water taker.

In addition, there are over 14,000 wells in Wellington County that penetrate the bedrock aquifers. Individually, any one of these wells with an open wellbore has the potential to transport a significant quantity of water and/or contaminants from one portion of the aquifer to another.

9.0 Conclusions

The following conclusions are made based on the completion of this study:

- Based on the municipal well installation and modelled aquifer contacts, the WHPAs for the following wells were considered areas of induced drawdown into lower aquifers (i.e., potential for MAW risk): City of Guelph, Hamilton Drive, City of Cambridge, Rockwood, Mount Forest and Township of Centre Wellington (Fergus and Elora). All other WHPAs in Wellington County were interpreted as having no MAW risk.

- A total of 758 MECP WWR were identified as potential MAW within Wellington County WHPAs identified as having MAW risk. The identified MAW were within the WHPAs for the City of Guelph, City of Cambridge, Rockwood, Mount Forest and Township of Centre Wellington (Fergus and Elora).
- A total of eleven well clusters were identified within Wellington County WHPAs. Well clusters are interpreted as a transport pathway based on the Conservation Ontario (2023) Guidance Document.

10.0 Recommendations

This study has identified wells with open wellbores that can facilitate the movement of groundwater and potentially contaminants into lower aquifer systems. We recommend the following actions.

1. Create development standards for wells:
 - a. We recommend that municipalities develop municipal standards for well construction in their communities. This study can be used as a guideline for establishing minimum casing lengths to prevent MAW.
 - b. We recommend that the Province provide additional guidance, either within O. Reg 903 or best management materials, that details the necessity for casing wells to the target aquifer.
2. Complete additional MAW analysis:
 - a. We recommend that further study be completed to identify areas with significant hydraulic gradients across aquitards to understand the scope of the impact that MAW, under induced downward gradient from municipal pumping wells, may be having on groundwater quality across Wellington County.
 - b. We recommend that a risk analysis be completed to further screen the identified MAW wells that require immediate action. The risk analysis could include data collected by Public Health, and the best management practices work completed by CTC and other conservation authorities.
 - c. We recommend that the current study be used to assess the potential impact of MAW on municipal technical projects such as well exploration studies and WHPA modelling work.
3. Existing well modification, abandonment or retrofit:
 - a. We recommend that a collaboration between municipalities, conservation authorities, the Province, and local well drillers be undertaken to develop strategies for

modification, retrofit, or abandonment of existing wells that represent a MAW risk to limit the potential movement of contaminants within areas of induced downward gradient by municipal pumping wells.

- b. We recommend that one of these strategies is a risk analysis that can be used to prioritize Rural Water Quality Program incentive projects for retrofitting existing wells identified as requiring immediate action. Municipalities should consider outreach to the affected MAW owners located within areas of induced downward gradient by municipal pumping wells.

11.0 References

Carter, T.R., F.R. Brunton, J.K. Clark, L. Fortner, C. Freckelton, C.E. Logan, H.A.J. Russell, M. Somers, L. Sutherland and K.H. Yeung. 2019. A Three-Dimensional Geological Model of the Paleozoic Bedrock of Southern Ontario. Ontario Geological Survey, Groundwater Resources Study 19, Geological Survey of Canada, Open File 8618.

Carter, T.R., Logan, C.E., Clark, J.K., Russell, H.A.J., Priebe, E.H. and Sun, S. 2022. A three-dimensional bedrock hydrostratigraphic model of southern Ontario. Geological Survey of Canada, Open File 8927.

Conservation Ontario. 2023. Transport Pathways Guidance Document. Prepared on behalf of: the Conservation Ontario Transport Pathways Working Group, dated January 20, 2023.

Earthfx Incorporated. 2010. Vulnerability Assessment and Scoring of Wellhead Protection Areas, City of Hamilton, Ontario, Final Report, dated April 2010.

Freeze, A. and J. Cherry. 1979. Groundwater. Prentice-Hall, Inc., Englewood Cliffs, New Jersey.

Golder Associates Ltd. 2011. City of Guelph Tier Three Water Budget and Local Area Risk Assessment. Dated July 2011.

Grand River Conservation Authority. 2008. Grand River Watershed Characterization Report, Lake Erie Source Protection Region Technical Team, dated January 2008.

Grand River Source Protection Area. 2022. Approved Assessment Report, dated February 9, 2022.

Groundwater Science Corp. 2020. Town of Erin Water Supply EA, New Water Supply Source Investigation, Test Well Drilling and Testing, Hydrogeologic Report, dated February 2020.

Matrix Solutions Inc. 2017. Centre Wellington Scoped Tier Three Water Budget Assessment, Physical Characterization Report. Dated December 2017.

Ontario Geological Survey. 2011. Bedrock Geology of Ontario. Ontario Geological Survey, Miscellaneous Release – Data 126 – Revision 1, scale: 1:250,000.

Ontario Ministry of the Environment, Conservation and Parks (MECP). 2024a. Water Well Records database and interactive Well Record Map.

Ontario Ministry of the Environment, Conservation and Parks (MECP). 2024b. Source Protection Information Atlas and Interactive Map.

Watson & Associates Economists Ltd. 2022. Phase 1 MCR Report: Urban Structure and Growth Allocations, County of Wellington, Final Report (as amended January 31, 2022).

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Carter, T.R., F.R. Brunton, J.K. Clark, L. Fortner, C. Freckelton, C.E. Logan, H.A.J. Russell, M. Somers, L. Sutherland and K.H. Yeung. 2019. A Three-Dimensional Geological Model of the Paleozoic Bedrock of Southern Ontario. Ontario Geological Survey, Groundwater Resources Study 19, Geological Survey of Canada, Open File 8618.

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Earthfx Incorporated. 2010. Vulnerability Assessment and Scoring of Wellhead Protection Areas, City of Hamilton, Ontario, Final Report, dated April 2010.

Freeze, A. and J. Cherry. 1979. Groundwater. Prentice-Hall, Inc., Englewood Cliffs, New Jersey.

Golder Associates Ltd. 2011. City of Guelph Tier Three Water Budget and Local Area Risk Assessment. Dated July 2011.

Grand River Conservation Authority. 2008. Grand River Watershed Characterization Report, Lake Erie Source Protection Region Technical Team, dated January 2008.

Grand River Source Protection Area. 2022. Approved Assessment Report, dated February 9, 2022.

Groundwater Science Corp. 2020. Town of Erin Water Supply EA, New Water Supply Source Investigation, Test Well Drilling and Testing, Hydrogeologic Report, dated February 2020.

Matrix Solutions Inc. 2017. Centre Wellington Scoped Tier Three Water Budget Assessment, Physical Characterization Report. Dated December 2017.

Ontario Geological Survey. 2011. Bedrock Geology of Ontario. Ontario Geological Survey, Miscellaneous Release – Data 126 – Revision 1, scale: 1:250,000.

Ontario Ministry of the Environment, Conservation and Parks (MECP). 2024a. Water Well Records database and interactive Well Record Map.

Ontario Ministry of the Environment, Conservation and Parks (MECP). 2024b. Source Protection Information Atlas and Interactive Map.

Watson & Associates Economists Ltd. 2022. Phase 1 MCR Report: Urban Structure and Growth Allocations, County of Wellington, Final Report (as amended January 31, 2022).

Multiaquifer Wells and Transport Pathways Study
Wellington Source Water Protection



Figures



Legend

- Bedrock Well
- Road
- ▭ County of Wellington

5000 0 5000 Meters

Scale 1:300,000

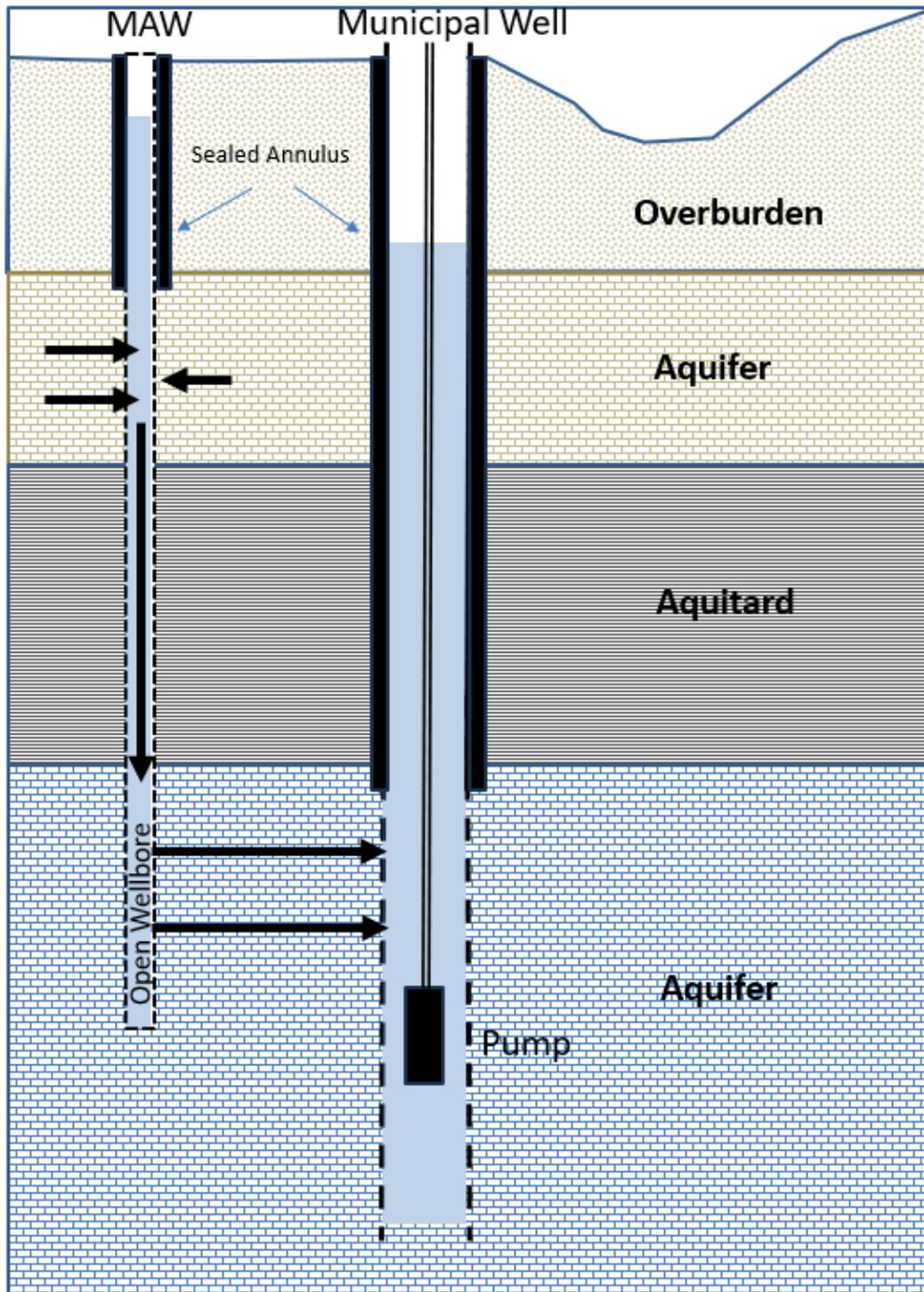
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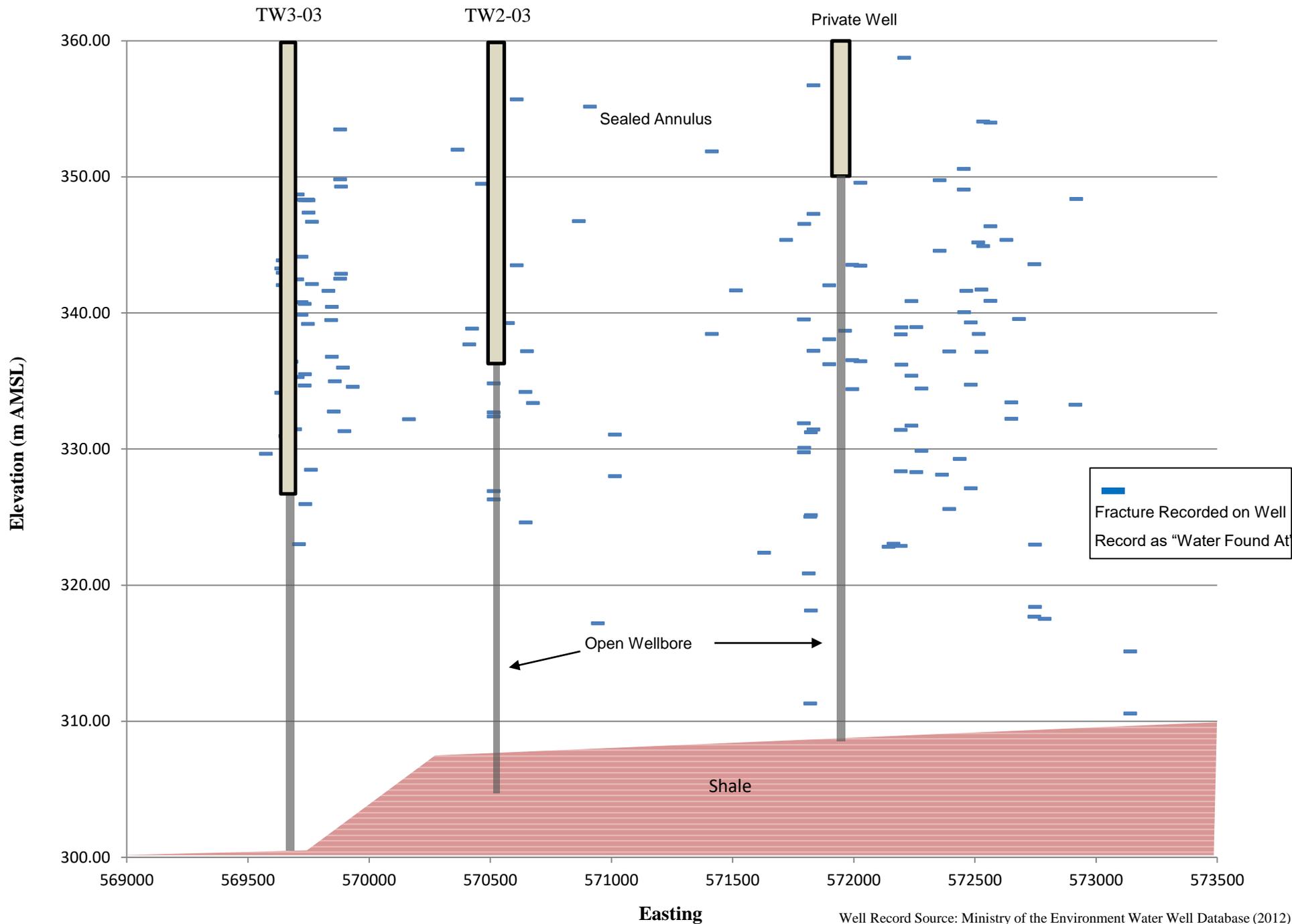


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Date: Mar 2024
Drawn By: SD

Multiaquifer Wells and Transport Pathways Study
 County of Wellington

Figure 1:
Bedrock Wells in Wellington County





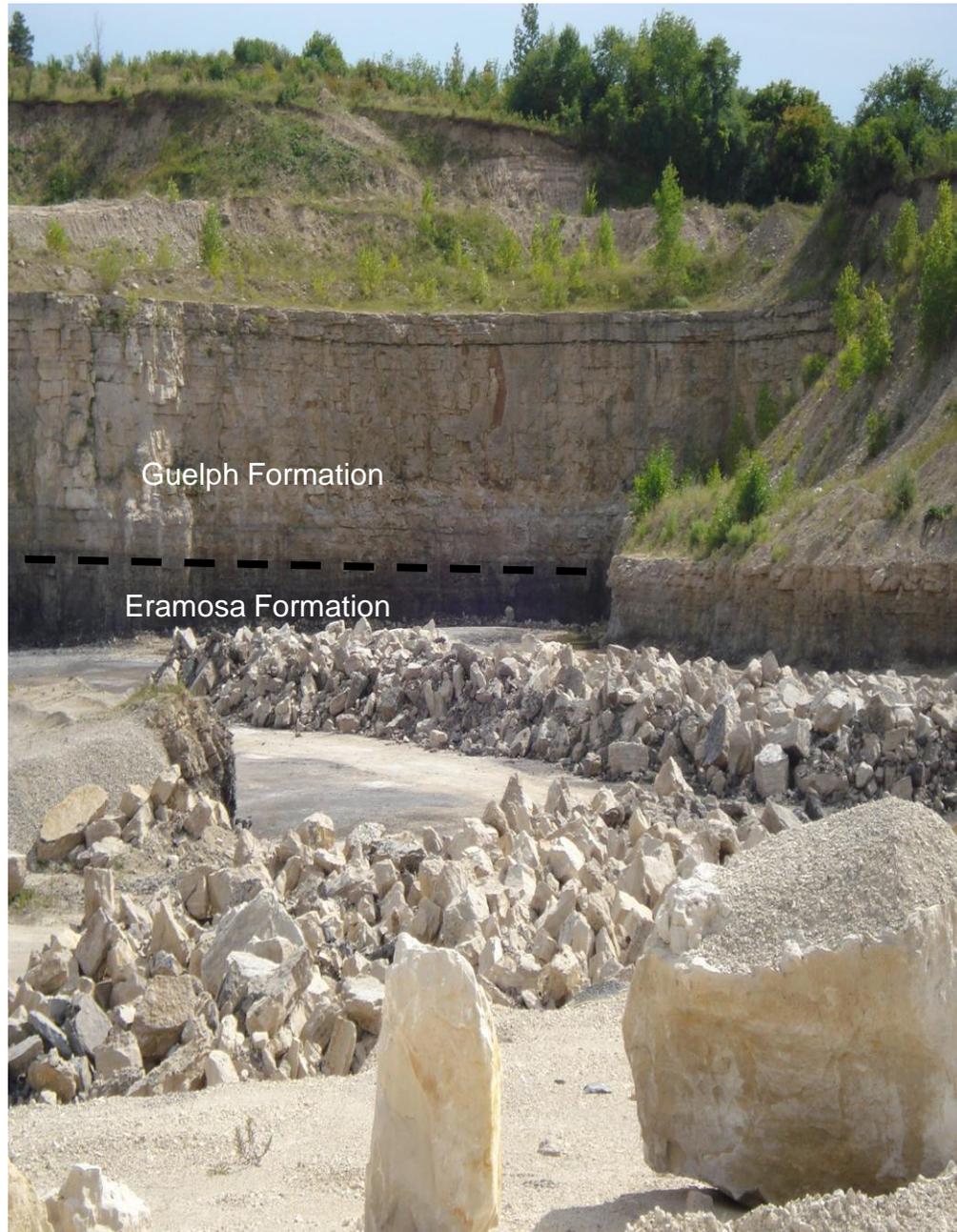
Well Record Source: Ministry of the Environment Water Well Database (2012)



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Drawn By: AR

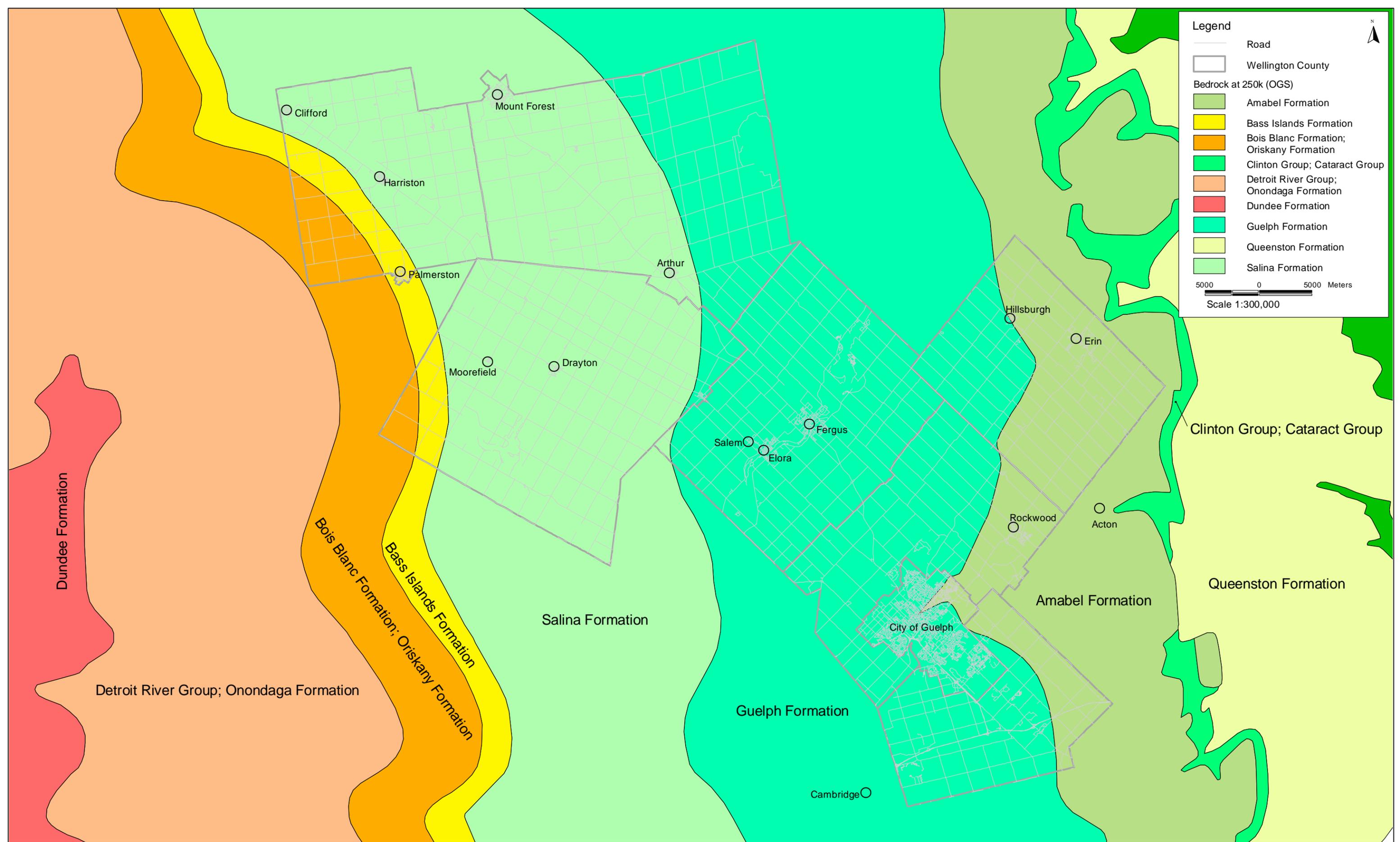
Multiaquifer Wells and Transport Pathways Study
 County of Wellington

Figure 3: Fracture Occurrences, Gasport Aquifer, Rockwood Area



Guelph Formation

Eramosa Formation



Legend

- Road
- Wellington County
- Bedrock at 250k (OGS)**
- Amabel Formation
- Bass Islands Formation
- Bois Blanc Formation; Oriskany Formation
- Clinton Group; Cataract Group
- Detroit River Group; Onondaga Formation
- Dundee Formation
- Guelph Formation
- Queenston Formation
- Salina Formation

5000 0 5000 Meters
Scale 1:300,000

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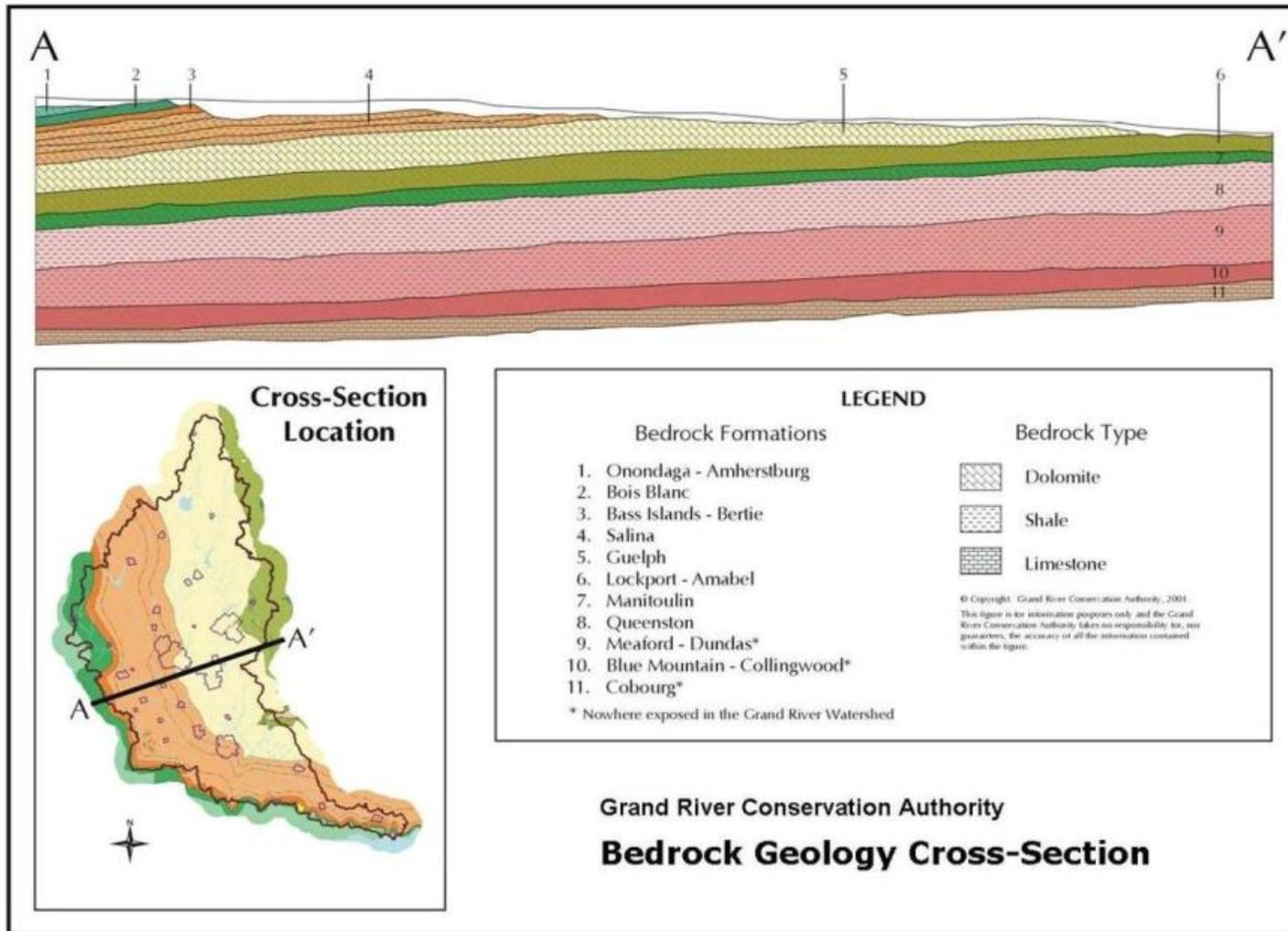


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 County of Wellington

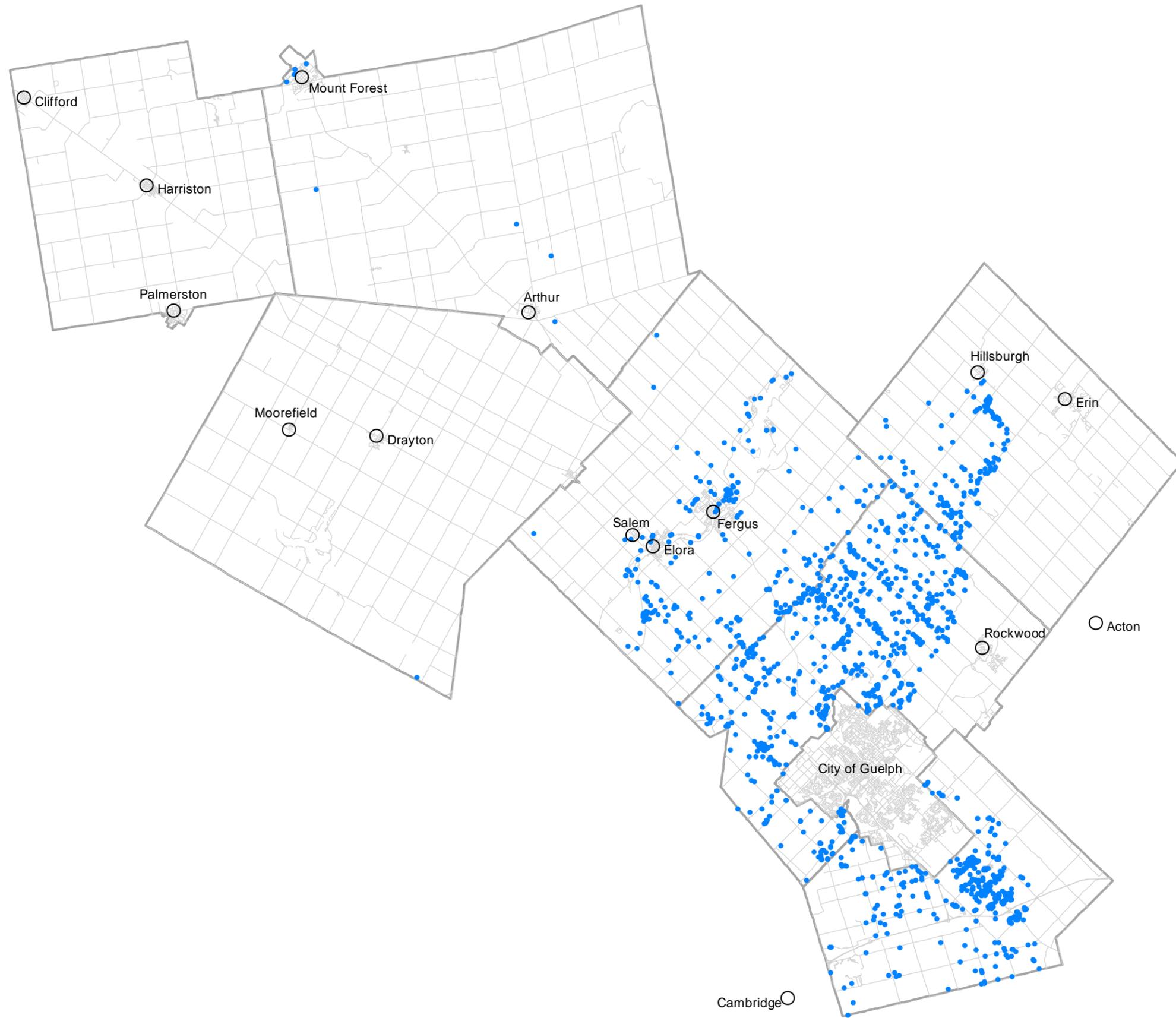
Figure 5:
Bedrock Geology

Figure 2.1: Bedrock Cross Sections of the Grand River Watershed



Various Authors, 1967-1993, Paleozoic Geology, Southern Ontario, Ontario Geological Survey.
Refer to metadata

Source: Grand River Watershed Characterization report, January 2008, Lake Erie Source Protection Region Technical Team



Legend

- Multiaquifer Wells Guelph Aquifer to Goat Island/Gasport Aquifer
- Road
- ▭ County of Wellington

5000 0 5000 Meters

Scale 1:300,000

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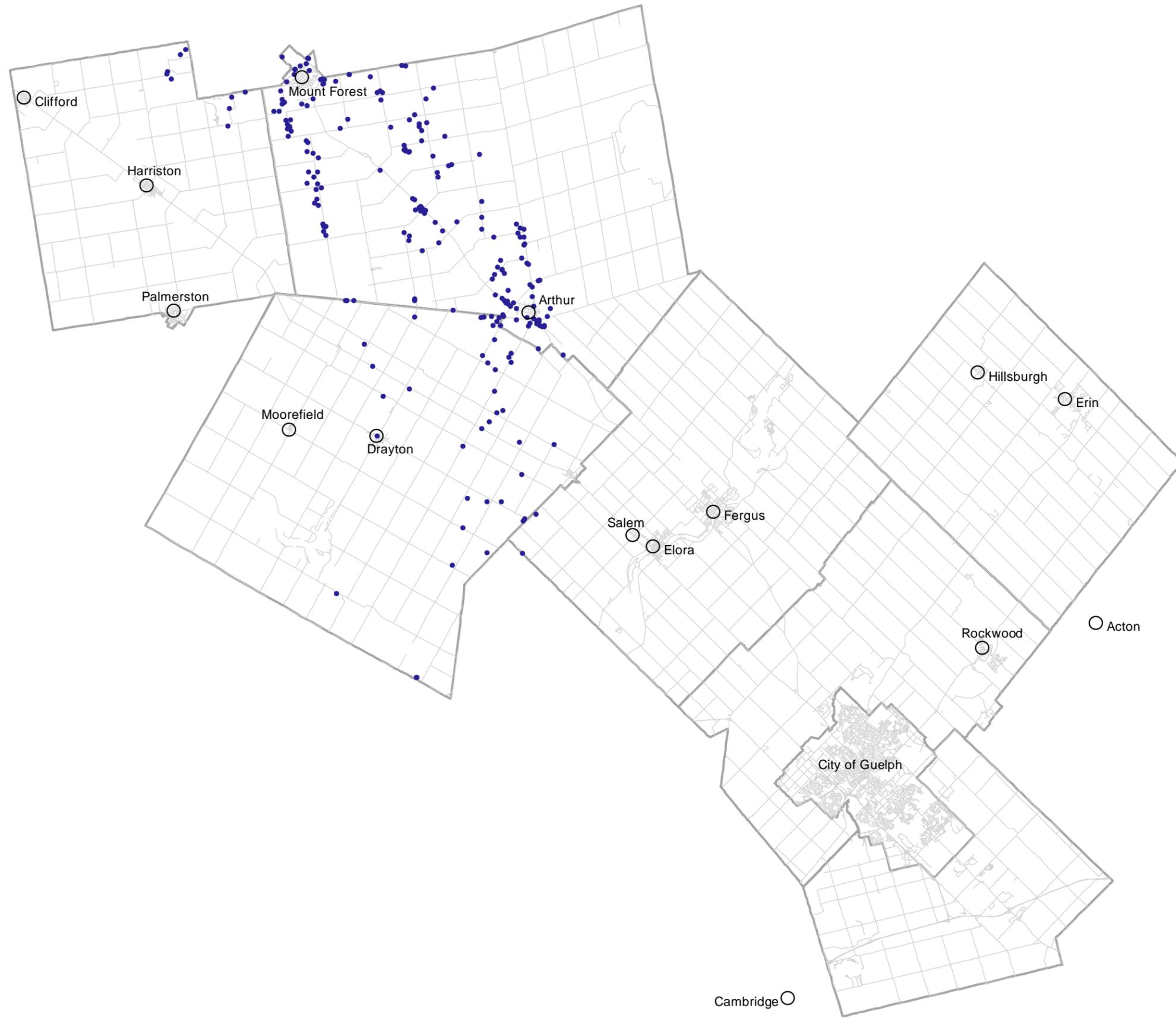


Harden
 Environmental
 Services Ltd.

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Multiaquifer Wells and Transport Pathways Study
 County of Wellington

Figure 7:
**Multiaquifer Wells Guelph Aquifer to
 Goat Island/Gasport Aquifer**



Legend

- Multiaquifer Wells Onondaga or Salina Formation into the Guelph Aquifer
- Road
- County of Wellington

5000 0 5000 Meters

Scale 1:300,000

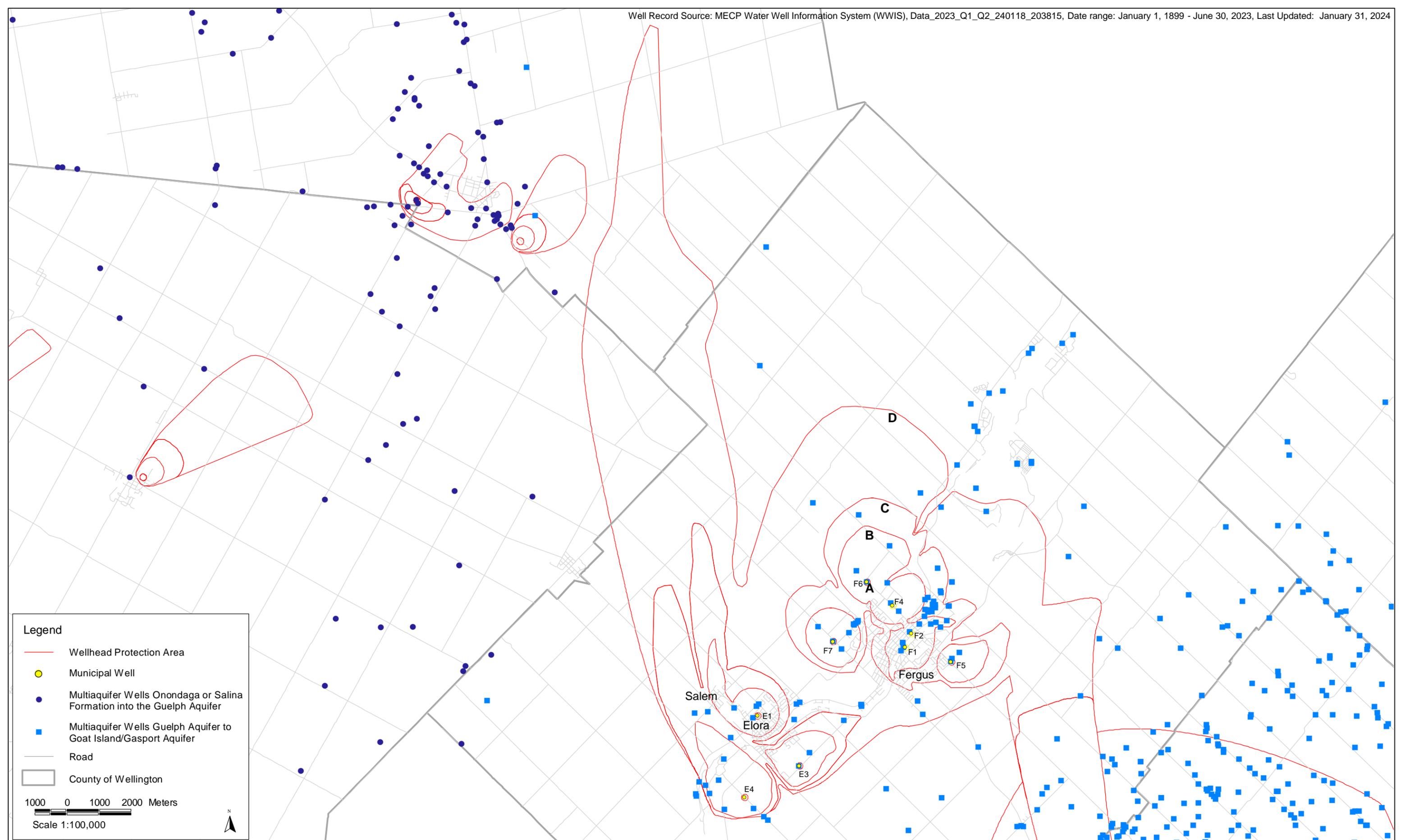
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Multiaquifer Wells and Transport Pathways Study
 County of Wellington

Figure 8:
Multiaquifer Wells Onondaga or Salina Formation into the Guelph Aquifer



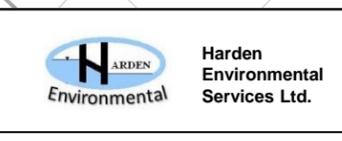
Legend

- Wellhead Protection Area
- Municipal Well
- Multiaquifer Wells Onondaga or Salina Formation into the Guelph Aquifer
- Multiaquifer Wells Guelph Aquifer to Goat Island/Gasport Aquifer
- Road
- County of Wellington

1000 0 1000 2000 Meters
Scale 1:100,000

N

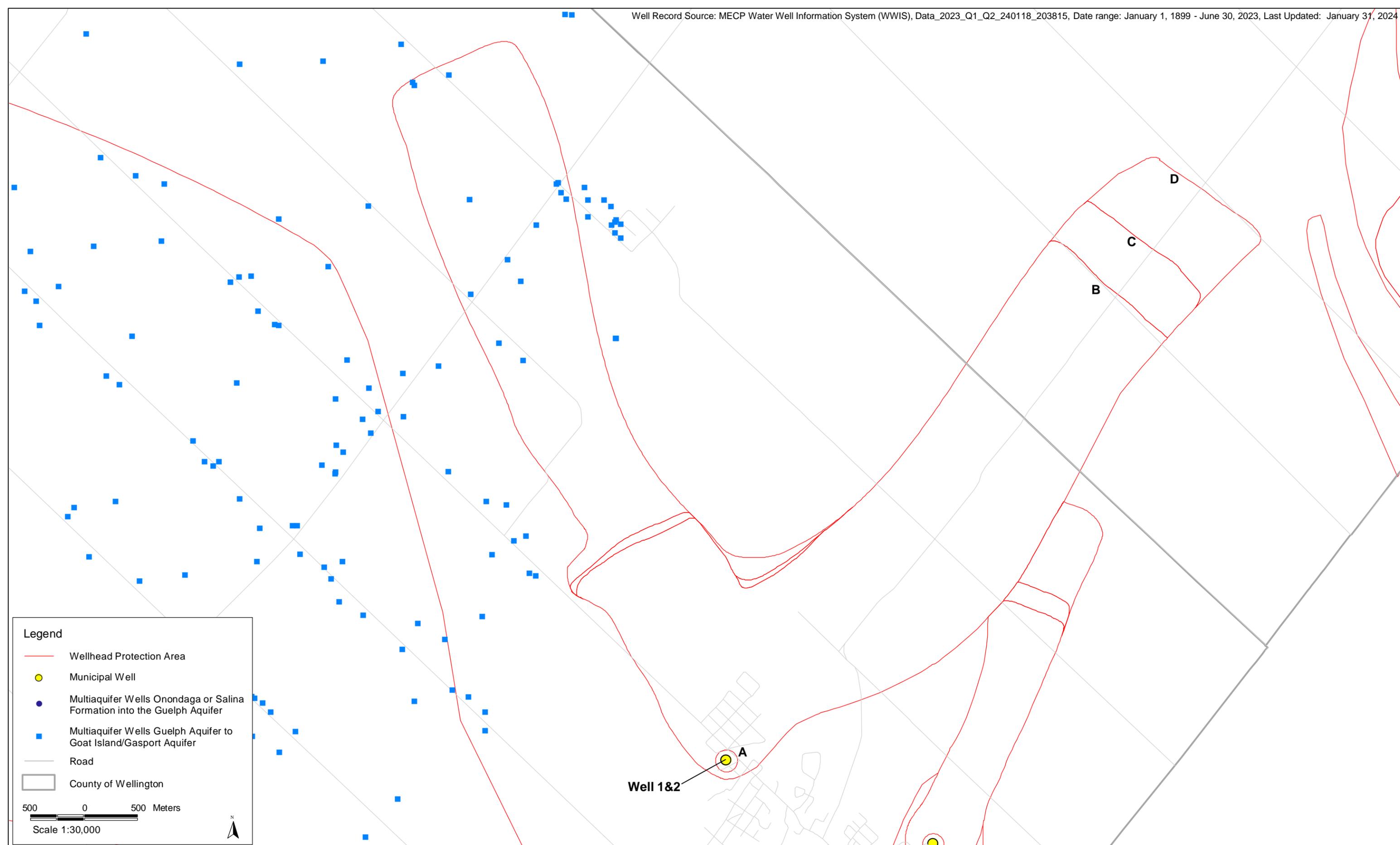
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Multiaquifer Wells and Transport Pathways Study
 County of Wellington

Figure 9:
Township of Centre Wellington Well Supply



Legend

- Wellhead Protection Area
- Municipal Well
- Multiaquifer Wells Onondaga or Salina Formation into the Guelph Aquifer
- Multiaquifer Wells Guelph Aquifer to Goat Island/Gasport Aquifer
- Road
- County of Wellington

500 0 500 Meters
Scale 1:30,000

N

Well 1&2 **A**

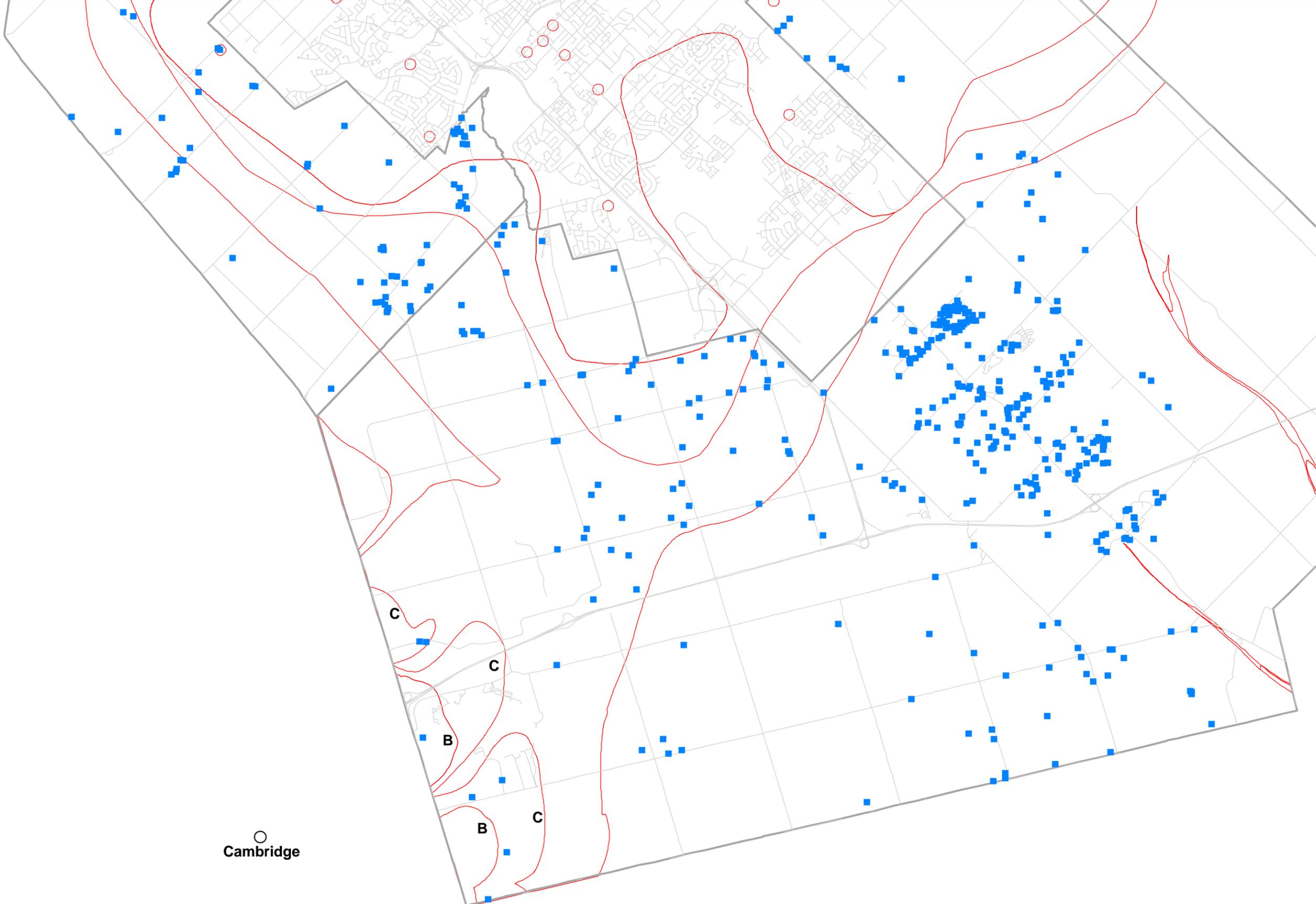
Figure 10:
Rockwood Well Supply

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Multiaquifer Wells and Transport Pathways Study
County of Wellington



Legend

- Wellhead Protection Area
- Multiaquifer Wells Onondaga or Salina Formation into the Guelph Aquifer
- Multiaquifer Wells Guelph Aquifer to Goat Island/Gasport Aquifer
- Road
- County of Wellington

1000 0 1000 Meters

Scale 1:70,000

N

Well Record Source: MECP Water Well Information System (WWIS), Data_2023_Q1_Q2_240118_203815, Date range: January 1, 1899 - June 30, 2023, Last Updated: January 31, 2024

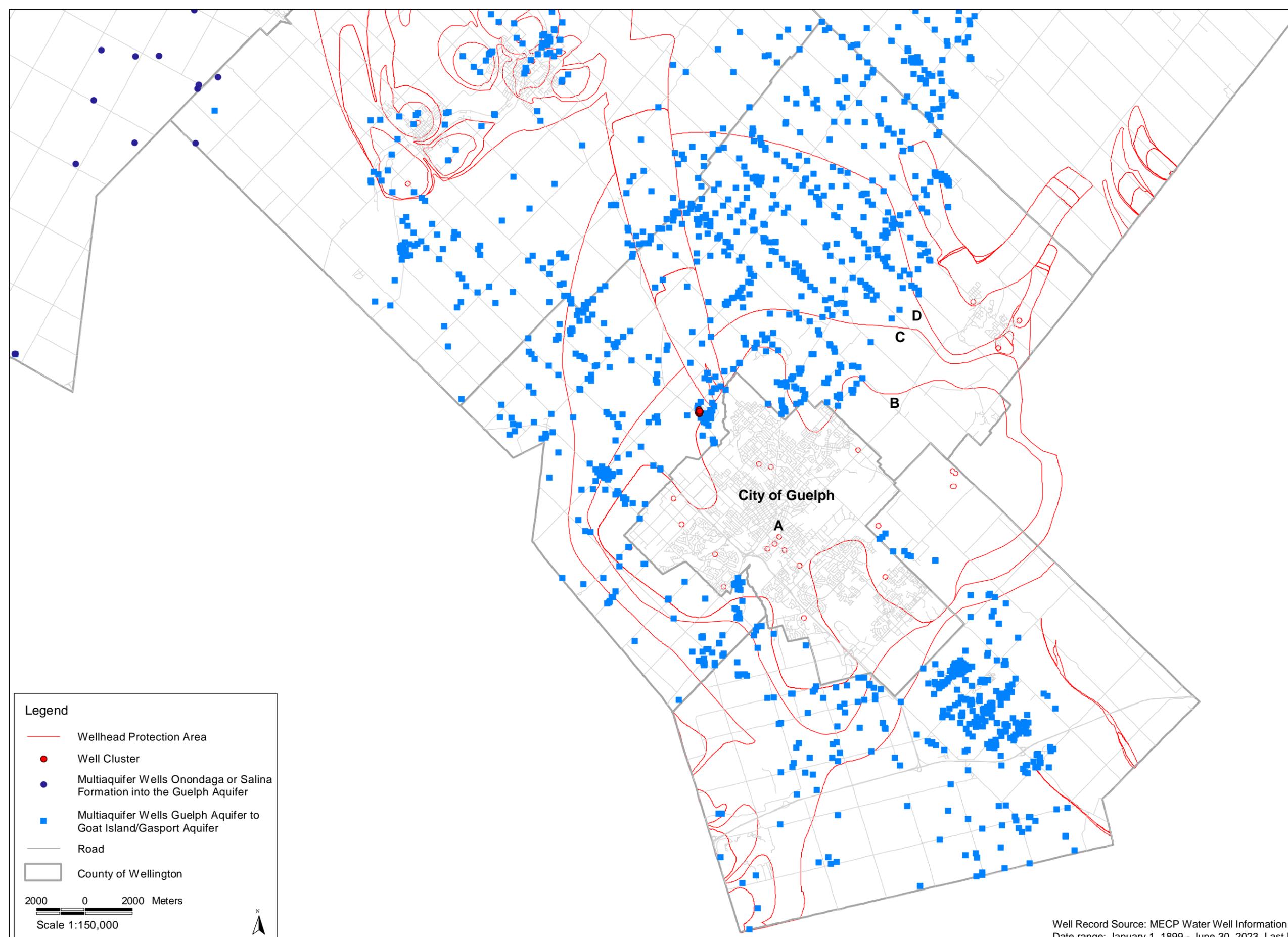
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Multiaquifer Wells and Transport Pathways Study
 County of Wellington

Figure 11:
Cambridge Well Supply



Legend

- Wellhead Protection Area
- Well Cluster
- Multiaquifer Wells Onondaga or Salina Formation into the Guelph Aquifer
- Multiaquifer Wells Guelph Aquifer to Goat Island/Gasport Aquifer
- Road
- County of Wellington

2000 0 2000 Meters
 Scale 1:150,000

N

Well Record Source: MECP Water Well Information System (WWIS), Data_2023_Q1_Q2_240118_203815, Date range: January 1, 1899 - June 30, 2023, Last Updated: January 31, 2024

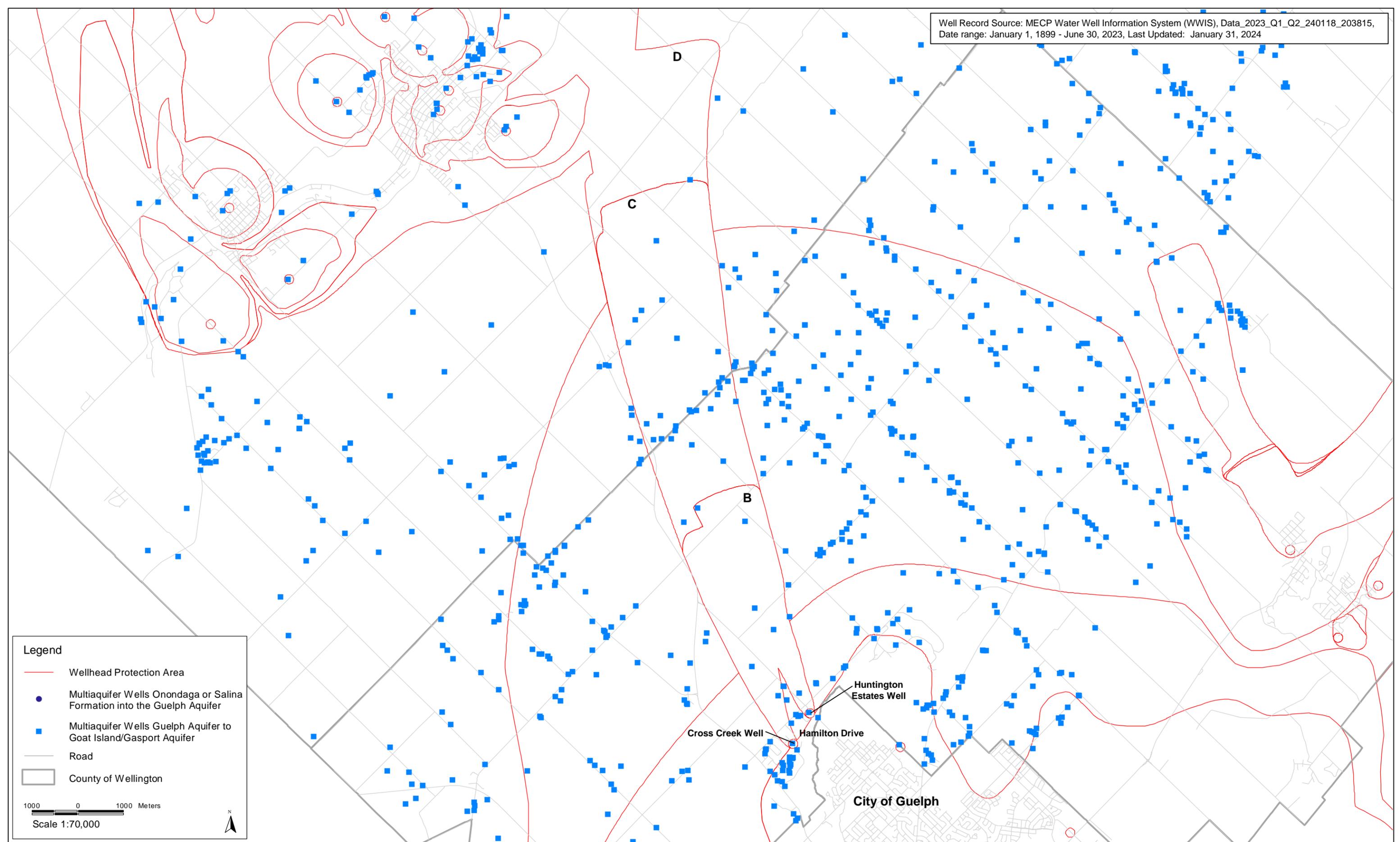
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Multiaquifer Wells and Transport Pathways Study
 County of Wellington

Figure 12:
City of Guelph Well Supply



Legend

- Wellhead Protection Area
- Multiaquifer Wells Onondaga or Salina Formation into the Guelph Aquifer
- Multiaquifer Wells Guelph Aquifer to Goat Island/Gasport Aquifer
- Road
- County of Wellington

1000 0 1000 Meters
 Scale 1:70,000

N

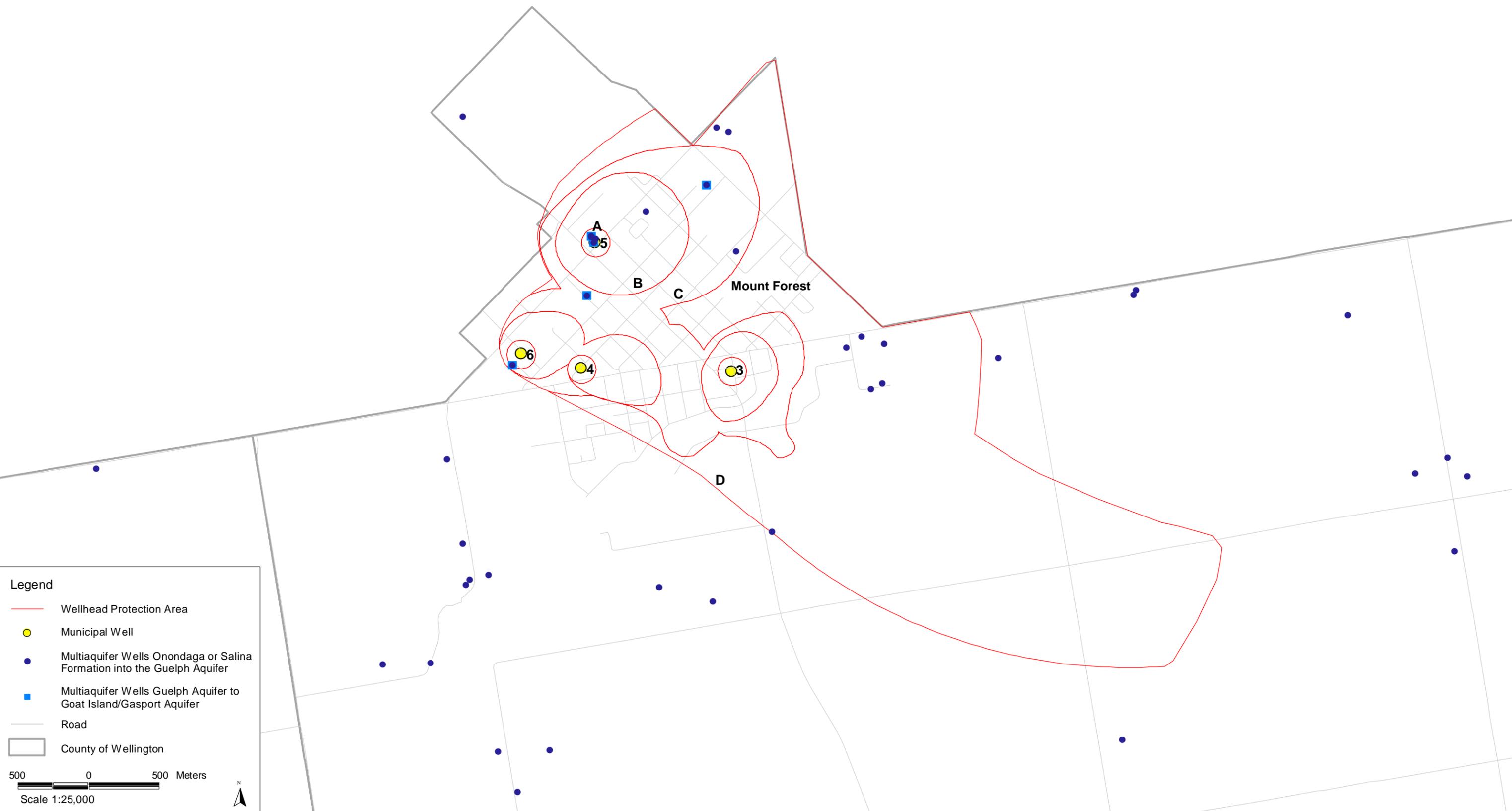
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Multiaquifer Wells and Transport Pathways Study
 County of Wellington

Figure 13:
**Township of Guelph/Eramosa
 Hamilton Drive Well Supply**



Legend

- Wellhead Protection Area
- Municipal Well
- Multi-aquifer Wells Onondaga or Salina Formation into the Guelph Aquifer
- Multi-aquifer Wells Guelph Aquifer to Goat Island/Gasport Aquifer
- Road
- County of Wellington

500 0 500 Meters
Scale 1:25,000

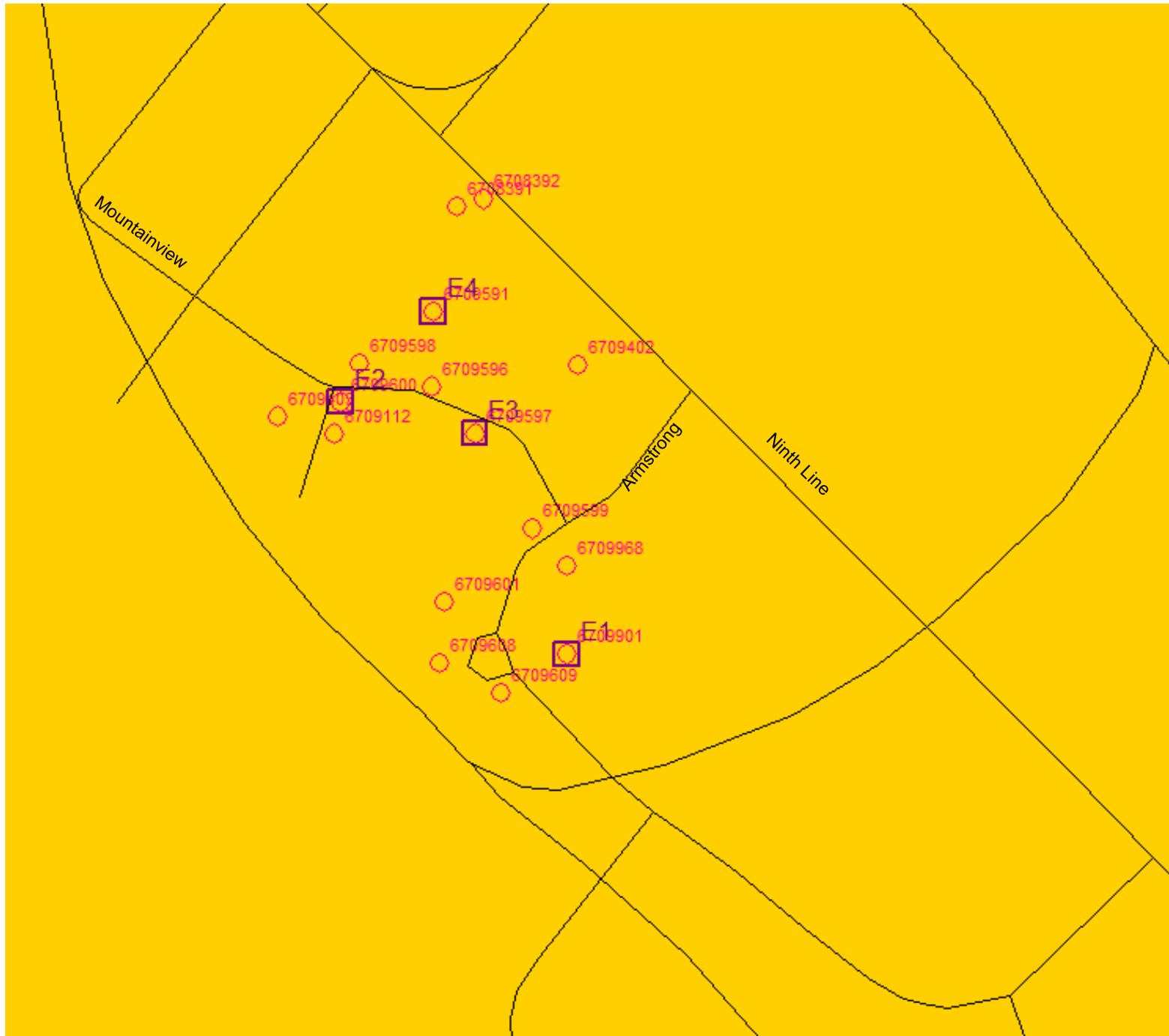
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Date: Mar 2024
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County of Wellington

Figure 14:
Mount Forest Well Supply



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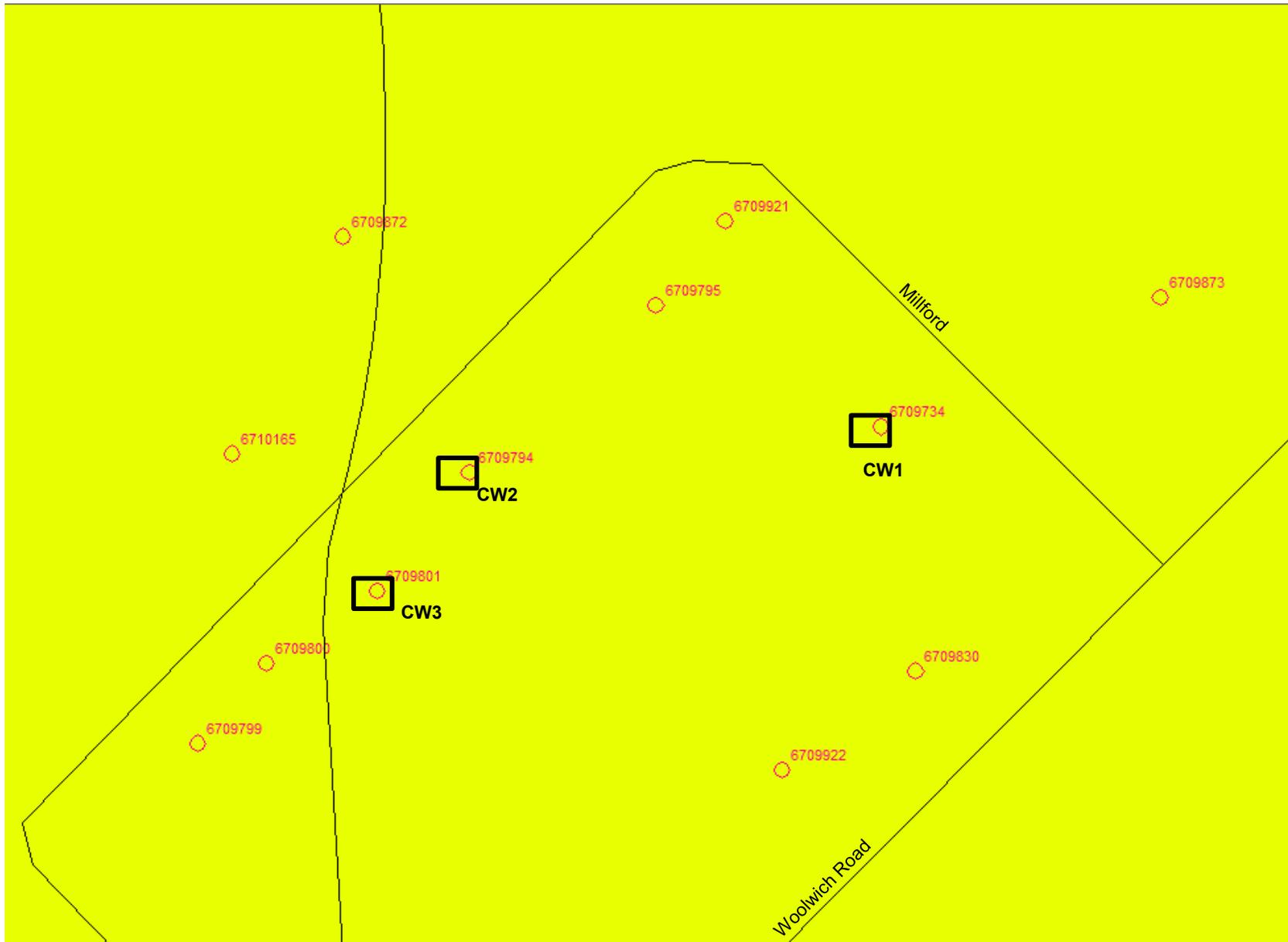
Date: Aug 2024

Drawn By: SD

Multiaquifer Wells and Transport Pathways Study

County of Wellington

Figure 15: Bel-Erin Clusters



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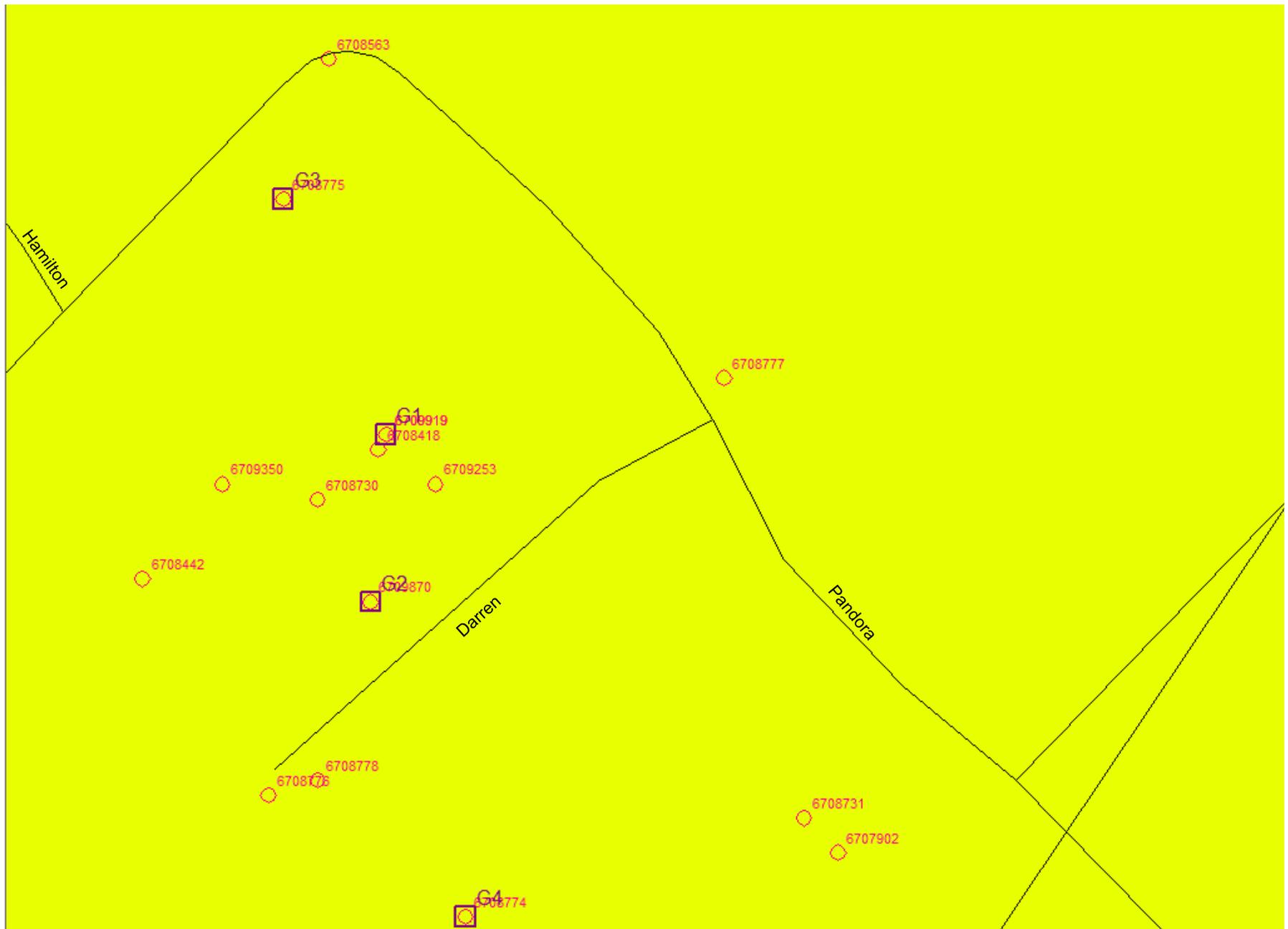
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Figure 16: Centre Wellington Clusters (Elora 1)



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Figure 17: Emma Well Clusters

Multiaquifer Wells and Transport Pathways Study
Wellington Source Water Protection



Appendix A

Multiaquifer Wells Identified within Wellington County WHPAs

Appendix A
MECP Water Well Records Interpreted as Potential Multiaquifer Wells

Well ID	Borehole ID	Water Supply	Supply Well (s)	WHPA	Date Completed	Easting	Northing	Well Depth (m)	Static Water Level (m)	Ground Elevation (mAMSL)	Top of Rock (mAMSL)	Bottom of Guelph Formation (mAMSL)	Bottom of Aquifer (mAMSL)	UTM Reliability	Location Method
6713932	10523064	Cambridge	25 Municipal Wells	B	8/31/01	558,377	4,807,164	73.2	1.5	313.2	281	261	240	margin of error : 10 - 30 m	
6706546	10470622	Cambridge	25 Municipal Wells	C	10/26/77	558,434	4,808,923	85.3	2.4	307.3	281	271	244	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6707041	10471107	Cambridge	25 Municipal Wells	C	8/22/79	559,934	4,805,043	74.7	2.4	306.1	276	251	236	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
7039944	11762260	Cambridge	25 Municipal Wells	C	6/27/06	559,286	4,806,058	126.5		310.2	280	254	238	margin of error : 10 - 30 m	from gps
7040112	11762625	Cambridge	25 Municipal Wells	C	6/06/06	559,589	4,804,174	121.0		304.4	272	248	233	margin of error : 10 - 30 m	from gps
7120897	1002034162	Cambridge	25 Municipal Wells	C	8/25/08	559,846	4,806,374	119.0	6.2	310.7	271	257	239	margin of error : 10 - 30 m	on Water Well Record
7417606	1009030790	Cambridge	25 Municipal Wells	C	4/06/22	558,315	4,808,939	112.8		305.4	282	272	244	margin of error : 30 m - 100 m	on Water Well Record
6711827	10475660	Cambridge	25 Municipal Wells	D	9/21/95	562,185	4,810,539	64.0	10.4	319.6	290	284	263	margin of error : 10 - 30 m	
6713810	10522942	Cambridge	25 Municipal Wells	D	8/21/01	562,344	4,809,905	81.7	16.8	325.6	297	280	261	UTM very unreliable	Lot centroid
6714368	10542213	Cambridge	25 Municipal Wells	D	12/06/02	561,536	4,809,718	56.4	10.7	313.1	283	279	258	Approximate location: margin of error : 1 km - 3 km	Lot centroid
6715728	11558249	Cambridge	25 Municipal Wells	D	3/20/06	561,409	4,811,031	73.2	8.9	317.3	292	286	263	margin of error : 10 - 30 m	on Water Well Record
6716019	11695801	Cambridge	25 Municipal Wells	D	11/21/06	561,871	4,810,631	67.1	13.7	320.0	290	285	262	margin of error : 10 - 30 m	on Water Well Record
7126162	1002557853	Cambridge	25 Municipal Wells	D	6/05/09	560,866	4,810,649	97.5		322.2	294	284	259	margin of error : 10 - 30 m	on Water Well Record
7336473	1007499898	Cambridge	25 Municipal Wells	D	5/21/19	561,358	4,810,856	62.2	4.0	318.7	293	285	262	margin of error : 30 m - 100 m	on Water Well Record
7417807	1009030793	Cambridge	25 Municipal Wells	D	2/23/22	560,857	4,808,508	122.2		316.8	282	270	250	margin of error : 30 m - 100 m	on Water Well Record
6703347	10467489	Cambridge & City of Guelph	25 & 21 Municipal Wells	D Cambridge C Guelph	4/23/69	561,994	4,813,073	54.9	3.0	325.6	293	297	274	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6703732	10467866	Cambridge & City of Guelph	25 & 21 Municipal Wells	D Cambridge C Guelph	8/25/70	563,514	4,813,103	50.9	7.6	329.1	296	296	281	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6703867	10467997	Cambridge & City of Guelph	25 & 21 Municipal Wells	D Cambridge C Guelph	11/25/70	564,054	4,813,543	57.9	9.1	336.2	299	296	284	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6704421	10468529	Cambridge & City of Guelph	25 & 21 Municipal Wells	D Cambridge C Guelph	11/17/72	563,154	4,814,143	74.4	32.0	338.9	303	300	283	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6705550	10469641	Cambridge & City of Guelph	25 & 21 Municipal Wells	D Cambridge C Guelph	6/10/75	563,505	4,813,454	39.0	8.8	295.2	264	298	282	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6712167	10476000	Cambridge & City of Guelph	25 & 21 Municipal Wells	D Cambridge C Guelph	12/04/96	563,595	4,814,224	54.9	30.5	335.5	305	301	286	margin of error : 10 - 30 m	
6712931	10476764	Cambridge & City of Guelph	25 & 21 Municipal Wells	D Cambridge C Guelph	2/25/99	562,189	4,813,949	67.1	29.0	333.0	303	300	277	margin of error : 10 - 30 m	
6713564	10477397	Cambridge & City of Guelph	25 & 21 Municipal Wells	D Cambridge C Guelph	11/14/00	564,078	4,814,538	54.9	15.5	340.6	300	301	289	margin of error : 10 - 30 m	
6714646	10548197	Cambridge & City of Guelph	25 & 21 Municipal Wells	D Cambridge C Guelph	10/08/03	564,319	4,814,547	61.0	15.8	339.5	298	300	290	UTM very unreliable	Lot centroid
7116236	1001908509	Cambridge & City of Guelph	25 & 21 Municipal Wells	D Cambridge C Guelph	11/09/08	562,617	4,813,694	79.2	26.2	340.0	310	300	280	margin of error : 10 - 30 m	on Water Well Record
7121859	1002415976	Cambridge & City of Guelph	25 & 21 Municipal Wells	D Cambridge C Guelph	7/21/08	563,190	4,812,531	105.5	12.9	332.7	301	294	277	margin of error : 10 - 30 m	on Water Well Record
7137880	1002919942	Cambridge & City of Guelph	25 & 21 Municipal Wells	D Cambridge C Guelph	8/31/09	561,342	4,813,878	82.0		327.9	300	298	270	margin of error : 30 m - 100 m	on Water Well Record
7216349	1004708735	Cambridge & City of Guelph	25 & 21 Municipal Wells	D Cambridge C Guelph	12/04/13	563,316	4,813,351	41.8	1.5	285.5	256	298	281	margin of error : 30 m - 100 m	on Water Well Record
7370853	1008476258	Cambridge & City of Guelph	25 & 21 Municipal Wells	D Cambridge C Guelph	8/13/20	561,304	4,813,870	78.3	25.8	327.7	299	298	270	margin of error : 30 m - 100 m	on Water Well Record
7417706	1009030230	Cambridge & City of Guelph	25 & 21 Municipal Wells	D Cambridge C Guelph	4/27/22	561,342	4,813,878	86.9		327.9	300	298	270	margin of error : 30 m - 100 m	on Water Well Record
6702371	10466515	Cambridge & City of Guelph	25 & 21 Municipal Wells	D Cambridge D Guelph	2/06/62	565,016	4,814,062	70.1	18.3	338.8	303	298	286	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6703142	10467284	Cambridge & City of Guelph	25 & 21 Municipal Wells	D Cambridge D Guelph	6/19/68	563,174	4,811,863	73.8	29.9	328.7	292	291	273	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6703187	10467329	Cambridge & City of Guelph	25 & 21 Municipal Wells	D Cambridge D Guelph	7/31/68	564,704	4,814,103	57.9	21.0	343.9	303	296	287	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6703262	10467404	Cambridge & City of Guelph	25 & 21 Municipal Wells	D Cambridge D Guelph	10/17/68	564,614	4,811,483	57.0	19.8	328.6	296	289	274	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6703590	10467725	Cambridge & City of Guelph	25 & 21 Municipal Wells	D Cambridge D Guelph	10/24/69	560,804	4,812,643	65.2	9.1	320.9	284	294	265	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6703800	10467735	Cambridge & City of Guelph	25 & 21 Municipal Wells	D Cambridge D Guelph	1/25/70	564,314	4,813,613	55.8	9.1	340.5	300	295	285	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6703900	10468029	Cambridge & City of Guelph	25 & 21 Municipal Wells	D Cambridge D Guelph	3/26/71	565,184	4,812,413	59.4	22.9	334.8	297	292	279	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6704034	10468156	Cambridge & City of Guelph	25 & 21 Municipal Wells	D Cambridge D Guelph	3/29/71	565,094	4,812,673	59.4	22.6	337.9	303	293	280	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6704249	10468362	Cambridge & City of Guelph	25 & 21 Municipal Wells	D Cambridge D Guelph	6/03/72	564,514	4,814,283	65.2	21.9	350.1	299	297	288	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6705967	10470049	Cambridge & City of Guelph	25 & 21 Municipal Wells	D Cambridge D Guelph	1/16/76	564,764	4,813,647	61.0	17.1	337.5	298	295	284	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6706156	10470236	Cambridge & City of Guelph	25 & 21 Municipal Wells	D Cambridge D Guelph	8/09/76	565,819	4,813,543	51.8	11.3	334.6	297	299	284	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6706453	10470531	Cambridge & City of Guelph	25 & 21 Municipal Wells	D Cambridge D Guelph	7/15/77	565,154	4,812,463	59.4	25.9	335.7	299	293	279	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6708005	10471969	Cambridge & City of Guelph	25 & 21 Municipal Wells	D Cambridge D Guelph	8/05/82	564,534	4,814,223	74.4	29.0	349.1	301	296	288	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6711465	10475298	Cambridge & City of Guelph	25 & 21 Municipal Wells	D Cambridge D Guelph	8/02/94	562,068	4,811,221	62.5	12.8	319.9	298	288	266	margin of error : 10 - 30 m	from gps
6713118	10476951	Cambridge & City of Guelph	25 & 21 Municipal Wells	D Cambridge D Guelph	8/18/99	564,134	4,812,471	62.5	25.6	334.8	300	293	278	UTM very unreliable	Lot centroid
6713754	10522888	Cambridge & City of Guelph	25 & 21 Municipal Wells	D Cambridge D Guelph	5/31/01	563,220	4,811,100	80.8	13.4	330.1	297	287	269	margin of error : 10 - 30 m	
6714096	10528631	Cambridge & City of Guelph	25 & 21 Municipal Wells	D Cambridge D Guelph	5/16/02	560,869	4,812,656	67.1	17.4	321.8	288	295	266	margin of error : 10 - 30 m	
6715386	11327172	Cambridge & City of Guelph	25 & 21 Municipal Wells	D Cambridge D Guelph	6/20/05	564,772	4,813,798	54.9	12.5	336.5	296	296	285	margin of error : 30 m - 100 m	on Water Well Record
7113226	1001837720	Cambridge & City of Guelph	25 & 21 Municipal Wells	D Cambridge D Guelph	8/27/08	561,500	4,811,662	60.4	13.6	317.4	299	290	266	margin of error : 10 - 30 m	on Water Well Record
7214834	1004686990	Cambridge & City of Guelph	25 & 21 Municipal Wells	D Cambridge D Guelph	10/01/13	563,018	4,811,774	71.9	25.2	330.5	296	290	272	margin of error : 30 m - 100 m	on Water Well Record
7255344	100584829	Cambridge & City of Guelph	25 & 21 Municipal Wells	D Cambridge D Guelph	11/26/15	561,627	4,811,842	68.6	14.7	318.5	296	291	267	margin of error : 30 m - 100 m	on Water Well Record
7312247	1007093285	Cambridge & City of Guelph	25 & 21 Municipal Wells	D Cambridge D Guelph	5/23/18	563,312	4,811,449	230.0	64.2	333.6	305	288	271	margin of error : 30 m - 100 m	on Water Well Record
7380288	1008569209	Cambridge & City of Guelph	25 & 21 Municipal Wells	D Cambridge D Guelph	2/03/21	562,984	4,811,224	71.6	26.3	332.9	301	288	269	margin of error : 30 m - 100 m	on Water Well Record
6700836	10464982	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	A	6/29/45	550,548	4,839,982	76.5	4.9	405.2	404	338	334	margin of error : 100 m - 300 m	Geocoding from address
6704214	10468327	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	A	3/08/72	549,964	4,840,873	129.5	19.2	426.1	346	336	334	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6705562	10469652	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	A	6/05/75	551,849	4,839,154	100.0	15.2	422.6	408	345	338	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6705806	10469696	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	A	7/25/75	551,814	4,839,073	124.4	16.8	422.6	407	344	337	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6709834	10473682	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	A	5/15/89	549,222	4,841,524	122.5	17.7	424.4	399	332	332	margin of error : 10 - 30 m	from gps
6710658	10474502	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	A	5/15/91	547,129	4,835,855	121.9	6.4	396.7	385	322	317	margin of error : 10 - 30 m	from gps
6715276	11327062	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	A	6/24/03	550,358	4,839,518	79.5	12.6	405.1	403	337	333	margin of error : 30 m - 100 m	on Water Well Record
6715314	11327100	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	A	3/09/05	548,185	4,839,691	138.7		423.0	403	323	326	margin of error : 30 m - 100 m	on Water Well Record
6702132	10466277	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	B	12/18/62	544,661	4,835,416	97.5	0.3	374.3	374	305	305	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6700132	10464280	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	B	1/15/48	545,716	4,837,335	129.8	12.5	397.0	393	331	314	UTM very unreliable	Original Pre1985 UTM Rel Code 9: unknown UTM
6700837	10464983	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	B	4/01/65	550,284	4,839,414	110.0	14.6	405.7	401	337	333	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 4: margin of error : 100 m -

Appendix A
MECP Water Well Records Interpreted as Potential Multiaquifer Wells

Well ID	Borehole ID	Water Supply	Supply Well (s)	WHPA	Date Completed	Easting	Northing	Well Depth (m)	Static Water Level (m)	Ground Elevation (mAMSL)	Top of Rock (mAMSL)	Bottom of Guelph Formation (mAMSL)	Bottom of Aquifer (mAMSL)	UTM Reliability	Location Method
6711091	10474932	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	B	12/11/91	550,218	4,840,629	108.2	27.1	424.9	398	337	334	margin of error : 10 - 30 m	from gps
6711365	10475199	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	B	11/24/93	549,927	4,842,641	117.3	10.7	425.5	400	337	336	margin of error : 10 - 30 m	from gps
6712890	10476723	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	B	1/20/99	548,886	4,840,258	96.9	36.0	422.3	368	327	330	margin of error : 10 - 30 m	
6713250	10477083	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	B	11/11/99	548,449	4,839,464	138.7	13.7	417.7	397	325	327	margin of error : 10 - 30 m	
6716005	11695787	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	B	9/27/06	548,818	4,840,224	101.2	25.6	422.4	389	327	329	margin of error : 10 - 30 m	on Water Well Record
7167450	1003552363	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	B	7/08/11	551,704	4,840,325	111.0	6.8	407.5	405	344	338	margin of error : 10 - 30 m	on Water Well Record
7168480	1003561271	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	B	7/28/11	545,886	4,837,768	152.4		408.6	392	330	315	margin of error : 10 - 30 m	on Water Well Record
7168481	1003561273	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	B	8/18/11	548,913	4,841,861	149.4		423.1	401	331	332	margin of error : 10 - 30 m	on Water Well Record
7169495	1003573222	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	B	9/23/11	552,084	4,839,360	143.3		421.9	405	346	338	margin of error : 30 m - 100 m	on Water Well Record
7195811	1004242527	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	B	8/15/12	549,861	4,841,490	150.9		429.3	399	336	334	margin of error : 30 m - 100 m	on Water Well Record
7195813	1004242533	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	B	7/10/12	547,736	4,840,141	150.9		420.8	398	321	326	margin of error : 30 m - 100 m	on Water Well Record
7195815	1004242539	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	B	6/20/12	547,461	4,836,261	179.7		408.8	388	325	319	margin of error : 30 m - 100 m	on Water Well Record
7224329	100495830	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	B	5/19/14	551,212	4,840,222	77.8	9.1	404.6	402	342	337	margin of error : 30 m - 100 m	on Water Well Record
7327045	1007358387	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	B	1/11/19	545,132	4,837,646	110.9	12.2	408.1	405	325	312	margin of error : 30 m - 100 m	on Water Well Record
7405014	1008871917	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	B	10/14/21	550,345	4,839,658	86.4		406.3	406	337	333	margin of error : 30 m - 100 m	on Water Well Record
7405015	1008871920	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	B	10/14/21	550,349	4,839,658	116.0		406.1	406	337	333	margin of error : 30 m - 100 m	on Water Well Record
6702167	10466312	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	C	6/12/64	544,247	4,835,257	103.6		374.3	374	302	303	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6702898	10467041	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	C	6/09/65	548,984	4,843,580	89.9		423.7	397	335	334	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6709077	10472950	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	C	9/25/87	551,342	4,840,824	114.3	19.8	418.7	400	343	338	margin of error : 10 - 30 m	from gps
6709078	10472951	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	C	9/28/87	551,122	4,840,596	101.2	29.6	415.0	392	342	337	margin of error : 10 - 30 m	from gps
6709079	10472952	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	C	8/17/87	551,234	4,840,609	89.9	24.4	414.5	395	342	337	margin of error : 10 - 30 m	from gps
6709080	10472953	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	C	8/11/87	551,174	4,840,652	89.9	28.0	415.9	393	342	337	margin of error : 10 - 30 m	from gps
6709082	10472955	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	C	8/13/87	551,348	4,840,725	121.9	19.8	415.7	398	343	338	margin of error : 10 - 30 m	from gps
6709083	10472956	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	C	6/18/87	551,281	4,840,773	126.5	22.9	418.1	397	342	337	margin of error : 10 - 30 m	from gps
6709841	10473689	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	C	7/04/89	548,967	4,840,317	103.6	29.6	422.0	354	328	330	margin of error : 10 - 30 m	from gps
6710029	10473877	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	C	10/27/89	551,008	4,840,469	90.8	34.1	414.3	399	341	336	margin of error : 10 - 30 m	from gps
6710780	10474621	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	C	10/22/91	548,947	4,840,292	93.0	15.2	422.1	348	328	330	margin of error : 10 - 30 m	from gps
6711090	10474931	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	C	12/06/92	551,035	4,840,672	85.3	29.6	417.2	395	341	337	margin of error : 10 - 30 m	from gps
6711309	10475143	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	C	9/15/93	548,519	4,837,255	87.2	18.3	404.9	404	333	324	margin of error : 10 - 30 m	from gps
6711530	10475363	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	C	6/18/94	545,036	4,836,729	134.1		394.6	380	323	310	margin of error : 10 - 30 m	from gps
6711828	10475661	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	C	9/26/95	551,110	4,841,039	103.6	26.5	424.5	403	342	337	margin of error : 10 - 30 m	
6712467	10476300	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	C	12/24/97	551,299	4,840,922	85.3	25.9	421.8	399	343	338	margin of error : 10 - 30 m	
6712523	10476356	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	C	4/06/98	551,252	4,840,843	103.6	25.9	419.2	398	342	337	margin of error : 10 - 30 m	
6712538	10476371	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	C	5/14/98	551,422	4,841,955	143.6	21.3	424.9	404	344	339	UTM very unreliable	Lot centroid
6712546	10476379	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	C	5/07/98	551,020	4,840,983	103.6	30.8	422.6	405	341	337	margin of error : 10 - 30 m	
6713939	10523071	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	C	11/15/01	551,765	4,840,789	93.0	14.3	415.6	402	345	339	margin of error : 10 - 30 m	
6714146	10536354	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	C	6/18/02	551,508	4,840,122	106.7	6.7	407.2	407	343	338	UTM very unreliable	Lot centroid
6715122	11179758	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	C	10/14/04	551,773	4,840,790	90.5	13.1	415.6	404	345	339	margin of error : 10 - 30 m	on Water Well Record
7204364	100442008	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	C	5/02/13	551,499	4,841,236	112.8	25.3	427.6	401	344	339	margin of error : 30 m - 100 m	on Water Well Record
7219238	1004731811	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	C	2/28/14	543,924	4,837,491	129.2	9.8	403.8	394	317	308	margin of error : 30 m - 100 m	on Water Well Record
7248373	1005692621	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	C	8/17/15	544,326	4,837,525	158.5	14.3	410.1	405	319	309	margin of error : 30 m - 100 m	on Water Well Record
7285260	1006381741	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	C	12/13/16	551,523	4,841,180	108.2	26.2	426.4	400	344	339	margin of error : 30 m - 100 m	on Water Well Record
6710780	10465925	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	D	11/01/48	550,807	4,837,850	128.9	12.2	412.5	404	341	333	UTM very unreliable	Original Pre1985 UTM Rel Code 9: unknown UTM
6703788	10467919	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	D	10/08/70	546,994	4,837,293	76.2	4.0	390.1	390	331	319	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6704749	10468856	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	D	8/11/73	549,044	4,837,753	80.8	13.7	398.4	393	333	327	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6704750	10468857	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	D	8/24/73	549,074	4,837,723	88.4	13.7	398.0	392	333	327	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6705544	10469635	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	D	11/13/74	547,064	4,837,773	99.1	9.1	389.1	389	331	320	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 4: margin of error : 100 m - 300 m
6705839	10469923	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	D	11/25/75	547,164	4,837,823	88.4	5.5	391.5	388	331	320	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6706408	10470486	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	D	5/18/77	551,514	4,843,823	108.5	19.8	432.1	405	345	341	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6712498	10476331	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	D	3/20/98	550,958	4,837,453	128.0	4.9	409.6	401	342	333	margin of error : 10 - 30 m	
6712574	10476407	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	D	6/03/98	547,570	4,843,955	103.6	9.1	427.6	403	353	331	UTM very unreliable	Lot centroid
6713016	10476849	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	D	6/24/99	550,894	4,844,259	94.5	13.7	433.0	401	345	341	UTM very unreliable	Lot centroid
6713606	10477439	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	D	11/13/00	551,857	4,841,520	92.0	24.7	428.3	404	345	340	UTM very unreliable	Lot centroid
6714561	10548112	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	D	7/24/03	551,856	4,841,520	103.6	19.2	428.3	404	345	340	UTM very unreliable	Lot centroid
7333368	1007457568	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	D	5/09/19	549,076	4,837,693	72.2	11.5	397.7	394	333	327	margin of error : 30 m - 100 m	on Water Well Record
7333700	1007465699	Centre Wellington	E1 E3 E4 F1 F2 F4 to F7	D	5/07/19	552,920	4,843,690	107.0	22.0	432.3	405	352	345	margin of error : 30 m - 100 m	on Water Well Record
6701133	10465278	City of Guelph	21 Municipal Wells	A	8/11/66	560,342	4,825,826	59.4	22.9	347.5	337	329	312	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6706180	10470260	City of Guelph	21 Municipal Wells	B	6/25/76	554,574	4,819,923	91.4	0.0	341.5	326	315	300	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6706298	10470378	City of Guelph	21 Municipal Wells	A	9/17/76	554,602	4,819,900	64.0		341.0	326	315	299	margin of error : 10 - 30 m	from gps
6701246	10465391	City of Guelph	21 Municipal Wells	B	2/02/54	558,144	4,824,234	46.3	9.1	345.2	330	318	299	UTM very unreliable	Original Pre1985 UTM Rel Code 9: unknown UTM
6701251	10465396	City of Guelph	21 Municipal Wells	B	1/05/62	557,978	4,825,206	64.6	15.2	344.3	316	326	302	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6701252	10465397	City of Guelph	21 Municipal Wells	B	6/26/63	557,710	4,825,049	39.9	4.9	339.4	316	325	301	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6701253	10465398	City of Guelph	21 Municipal Wells	B	10/23/67	557,966	4,825,351	56.4	23.2	346.1	314	328	303	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6701256	10465401	City of Guelph	21 Municipal Wells	B	10/30/64	557,969	4,825,552	54.9	21.9	350.0	326	329	304	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6701257	10465402	City of Guelph	21 Municipal Wells	B	1/09/65	557,811	4,825,429	59.1	12.2	348.7	325	329	303	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6701306	10465451	City of Guelph	21 Municipal Wells	B	5/20/55	557,641	4,824,488	61.0	19.5	348.8	320	317	298	UTM very unreliable	Original Pre1985 UTM Rel Code 9: unknown UTM
6701352	10465497	City of Guelph	21 Municipal Wells	B	11/12/51	554,399	4,821,959	57.3	10.1	346.5	326	320	308	UTM very unreliable	Original Pre1985 UTM Rel Code 9: unknown UTM

Appendix A
MECP Water Well Records Interpreted as Potential Multiaquifer Wells

Well ID	Borehole ID	Water Supply	Supply Well (s)	WHPA	Date Completed	Easting	Northing	Well Depth (m)	Static Water Level (m)	Ground Elevation (mAMSL)	Top of Rock (mAMSL)	Bottom of Guelph Formation (mAMSL)	Bottom of Aquifer (mAMSL)	UTM Reliability	Location Method
6702722	10466865	City of Guelph	21 Municipal Wells	B	8/01/51	566,114	4,819,573	41.5	4.9	336.2	326	319	296	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6703084	10467226	City of Guelph	21 Municipal Wells	B	3/22/68	559,084	4,818,373	43.6	10.7	317.5	309	306	283	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6703144	10467286	City of Guelph	21 Municipal Wells	B	7/08/68	554,364	4,821,923	69.5	11.3	346.5	325	320	307	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6700902	10465048	City of Guelph	21 Municipal Wells	B	5/19/67	557,996	4,825,391	57.0	23.5	346.6	315	328	303	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6700956	10465102	City of Guelph	21 Municipal Wells	B	5/24/66	555,038	4,821,085	108.5	4.3	343.6	332	320	315	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6701112	10465257	City of Guelph	21 Municipal Wells	B	7/12/66	563,989	4,826,623	74.4	0.0	346.2	329	323	317	margin of error : 10 - 30 m	from gps
6701113	10465258	City of Guelph	21 Municipal Wells	B	6/15/66	563,789	4,826,394	37.5	0.3	349.3	347	323	315	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6701139	10465284	City of Guelph	21 Municipal Wells	B	5/27/55	560,932	4,825,699	45.4	14.6	353.8	329	329	311	UTM very unreliable	Original Pre1985 UTM Rel Code 9: unknown UTM
6701150	10465295	City of Guelph	21 Municipal Wells	B	6/11/57	561,042	4,825,598	51.5	11.9	357.8	331	329	310	UTM very unreliable	Original Pre1985 UTM Rel Code 9: unknown UTM
6701151	10465296	City of Guelph	21 Municipal Wells	B	6/05/58	560,972	4,825,626	45.1	12.2	355.4	332	329	311	UTM very unreliable	Original Pre1985 UTM Rel Code 9: unknown UTM
6701160	10465305	City of Guelph	21 Municipal Wells	B	10/14/60	561,061	4,825,490	45.7	10.7	354.9	333	329	310	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6701195	10465340	City of Guelph	21 Municipal Wells	B	5/10/66	560,950	4,826,671	43.6	16.2	350.1	340	326	317	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6701199	10465344	City of Guelph	21 Municipal Wells	B	10/07/65	560,714	4,826,719	32.0	12.2	348.2	345	325	317	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6701211	10465356	City of Guelph	21 Municipal Wells	B	9/03/64	559,189	4,827,521	56.1	18.6	355.3	338	334	318	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6701212	10465357	City of Guelph	21 Municipal Wells	B	1/19/56	560,275	4,827,975	49.1	18.3	357.9	318	323	320	UTM very unreliable	Original Pre1985 UTM Rel Code 9: unknown UTM
6703451	10467592	City of Guelph	21 Municipal Wells	B	8/01/69	556,224	4,817,733	57.9	7.0	332.7	322	320	278	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6703587	10467722	City of Guelph	21 Municipal Wells	B	10/31/69	557,834	4,825,373	46.3	13.7	347.4	329	329	302	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6703860	10467990	City of Guelph	21 Municipal Wells	B	12/22/70	558,034	4,825,523	60.0	17.1	348.5	324	329	304	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6703922	10468050	City of Guelph	21 Municipal Wells	B	3/11/71	557,964	4,825,273	48.8	13.7	344.6	318	327	302	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6704155	10468268	City of Guelph	21 Municipal Wells	B	7/05/71	557,979	4,825,453	56.4	21.9	347.8	316	329	303	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6704684	10468791	City of Guelph	21 Municipal Wells	B	6/16/73	558,054	4,825,543	54.6	18.3	348.6	327	329	304	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6704899	10469003	City of Guelph	21 Municipal Wells	B	12/31/73	559,154	4,818,283	39.0	3.0	316.5	316	304	283	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6704947	10469050	City of Guelph	21 Municipal Wells	B	8/24/73	555,216	4,819,224	41.1	4.0	326.0	315	318	288	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6705226	10469321	City of Guelph	21 Municipal Wells	B	7/08/74	565,500	4,819,732	40.2	10.7	334.4	320	317	295	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6705445	10469538	City of Guelph	21 Municipal Wells	B	1/10/75	554,446	4,821,679	47.5	7.6	344.4	320	320	310	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6705456	10469549	City of Guelph	21 Municipal Wells	B	11/20/74	554,754	4,821,723	86.9	18.3	347.0	345	321	313	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6705655	10469744	City of Guelph	21 Municipal Wells	B	8/15/75	560,894	4,825,403	59.7	28.0	351.4	336	329	310	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6705845	10469929	City of Guelph	21 Municipal Wells	B	12/24/75	559,194	4,818,143	41.1	13.7	318.8	315	304	282	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6706232	10470312	City of Guelph	21 Municipal Wells	B	10/27/76	556,914	4,818,483	51.5	4.9	334.3	324	318	283	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6706277	10470357	City of Guelph	21 Municipal Wells	B	10/28/76	559,094	4,818,643	48.5	—	316.1	315	309	284	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6706451	10470529	City of Guelph	21 Municipal Wells	B	7/07/77	563,314	4,826,173	45.1	10.7	349.7	332	323	312	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6706585	10470661	City of Guelph	21 Municipal Wells	B	5/28/77	558,064	4,824,323	68.6	—	348.7	329	318	299	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6707014	10471080	City of Guelph	21 Municipal Wells	B	7/18/79	559,014	4,818,423	40.5	9.1	319.4	308	307	284	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6707182	10471244	City of Guelph	21 Municipal Wells	B	5/17/79	566,114	4,819,573	77.4	9.4	336.2	326	319	296	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6707636	10471673	City of Guelph	21 Municipal Wells	B	7/11/81	566,234	4,819,543	71.6	7.9	336.8	326	319	296	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6708024	10471978	City of Guelph	21 Municipal Wells	B	6/30/83	557,874	4,824,923	43.3	6.1	340.7	324	323	300	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6708325	10472234	City of Guelph	21 Municipal Wells	B	12/05/85	563,238	4,825,732	54.3	13.4	353.2	323	319	309	margin of error : 10 - 30 m	from gps
6708860	10472749	City of Guelph	21 Municipal Wells	B	6/05/87	564,956	4,820,245	54.3	9.8	336.8	317	317	294	margin of error : 10 - 30 m	from gps
6709383	10473236	City of Guelph	21 Municipal Wells	B	7/26/88	565,185	4,820,463	74.7	3.7	332.6	321	317	293	margin of error : 10 - 30 m	from gps
6709747	10473595	City of Guelph	21 Municipal Wells	B	4/26/89	560,994	4,826,670	74.7	16.5	350.7	334	326	317	margin of error : 10 - 30 m	from gps
6710076	10473923	City of Guelph	21 Municipal Wells	B	10/20/89	556,243	4,817,787	59.4	8.5	333.0	321	321	279	margin of error : 10 - 30 m	from gps
6710194	10474041	City of Guelph	21 Municipal Wells	B	1/23/90	558,134	4,825,717	99.1	18.3	350.5	332	330	305	margin of error : 100 m - 300 m	from gps
6710379	10474224	City of Guelph	21 Municipal Wells	B	6/22/90	557,739	4,817,806	50.6	13.7	326.1	315	316	282	UTM very unreliable	Lot centroid
6710610	10474455	City of Guelph	21 Municipal Wells	B	3/26/91	560,590	4,816,352	36.6	0.9	306.2	288	302	277	margin of error : 10 - 30 m	from gps
6711082	10474923	City of Guelph	21 Municipal Wells	B	12/17/92	559,285	4,818,453	50.0	—	311.1	289	301	283	margin of error : 10 - 30 m	from gps
6711422	10475575	City of Guelph	21 Municipal Wells	B	6/18/95	554,216	4,819,476	54.9	17.4	337.1	320	314	294	margin of error : 10 - 30 m	from gps
6711951	10475784	City of Guelph	21 Municipal Wells	B	10/25/95	558,106	4,824,183	48.8	—	345.2	327	318	299	margin of error : 10 - 30 m	from gps
6712325	10476158	City of Guelph	21 Municipal Wells	B	8/01/97	557,814	4,825,025	43.0	4.3	340.4	321	325	301	margin of error : 10 - 30 m	from gps
6712893	10476526	City of Guelph	21 Municipal Wells	B	9/10/98	557,832	4,825,272	43.0	15.2	344.4	326	328	302	margin of error : 10 - 30 m	from gps
6712728	10476561	City of Guelph	21 Municipal Wells	B	10/19/98	555,254	4,821,697	73.2	8.8	348.9	344	325	318	UTM very unreliable	Lot centroid
6712962	10476795	City of Guelph	21 Municipal Wells	B	5/20/99	565,065	4,820,338	42.7	9.8	335.4	319	317	293	margin of error : 10 - 30 m	from gps
6713347	10477180	City of Guelph	21 Municipal Wells	B	5/27/00	567,258	4,819,353	55.5	5.5	346.5	320	320	296	UTM very unreliable	Lot centroid
6713366	10477199	City of Guelph	21 Municipal Wells	B	6/14/00	562,327	4,814,170	55.5	10.4	332.7	304	300	278	UTM very unreliable	Lot centroid
6713422	10477255	City of Guelph	21 Municipal Wells	B	5/05/99	567,255	4,819,351	55.5	8.5	346.2	320	320	296	UTM very unreliable	Lot centroid
6713703	10477536	City of Guelph	21 Municipal Wells	B	5/30/01	554,485	4,821,866	70.1	15.2	345.5	327	320	309	margin of error : 10 - 30 m	from gps
6715060	11179697	City of Guelph	21 Municipal Wells	B	3/12/04	558,593	4,826,401	30.8	—	337.0	335	328	310	margin of error : 10 - 30 m	on Water Well Record
6715178	11179814	City of Guelph	21 Municipal Wells	B	9/08/04	560,864	4,826,591	42.7	21.0	346.1	339	326	316	margin of error : 10 - 30 m	on Water Well Record
6715296	11327082	City of Guelph	21 Municipal Wells	B	3/11/05	555,594	4,823,264	51.8	7.3	344.7	334	327	295	margin of error : 30 m - 100 m	on Water Well Record
7044539	11766882	City of Guelph	21 Municipal Wells	B	4/19/07	563,299	4,826,047	67.1	—	346.3	329	322	311	margin of error : 10 - 30 m	on Water Well Record
7044540	11766883	City of Guelph	21 Municipal Wells	B	4/19/07	563,299	4,826,047	61.3	—	346.3	329	322	311	margin of error : 10 - 30 m	on Water Well Record
7121858	1002415973	City of Guelph	21 Municipal Wells	B	7/11/08	560,944	4,826,609	76.2	11.8	347.6	338	326	316	margin of error : 10 - 30 m	on Water Well Record
7165324	1003533986	City of Guelph	21 Municipal Wells	B	6/16/11	560,888	4,825,950	44.2	13.8	345.8	331	329	313	margin of error : 10 - 30 m	on Water Well Record
7172615	1003614310	City of Guelph	21 Municipal Wells	B	8/10/11	559,142	4,818,308	50.6	17.9	316.3	314	304	283	margin of error : 10 - 30 m	on Water Well Record
7218469	1004726231	City of Guelph	21 Municipal Wells	B	1/29/14	557,658	4,825,164	50.6	5.5	339.3	322	327	301	margin of error : 30 m - 100 m	on Water Well Record
7305103	1006981882	City of Guelph	21 Municipal Wells	B	1/23/18	563,847	4,826,274	49.7	5.6	351.9	340	320	314	margin of error : 30 m - 100 m	on Water Well Record
7324954	1007327830	City of Guelph	21 Municipal Wells	B	12/11/18	559,798	4,828,109	66.8	12.0	364.3	331	329	322	margin of error : 30 m - 100 m	on Water Well Record
7405013	1008871914	City of Guelph	21 Municipal Wells	B	11/25/21	555,256	4,819,212	47.2	3.0	326.0	315	319	289	margin of error : 30 m - 100 m</	

Appendix A
MECP Water Well Records Interpreted as Potential Multiaquifer Wells

Well ID	Borehole ID	Water Supply	Supply Well (s)	WHPA	Date Completed	Easting	Northing	Well Depth (m)	Static Water Level (m)	Ground Elevation (mAMSLL)	Top of Rock (mAMSLL)	Bottom of Guelph Formation (mAMSLL)	Bottom of Aquifer (mAMSLL)	UTM Reliability	Location Method
6703087	10467229	City of Guelph	21 Municipal Wells	C	7/04/88	557,444	4,825,623	60.4	8.2	354.7	344	334	302	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6703264	10467406	City of Guelph	21 Municipal Wells	C	9/24/88	559,114	4,817,043	61.0	12.2	326.3	313	304	281	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6700157	10464305	City of Guelph	21 Municipal Wells	C	10/11/63	563,065	4,828,083	44.5	18.3	356.2	329	337	321	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6700158	10464306	City of Guelph	21 Municipal Wells	C	4/04/64	562,876	4,828,246	42.4	15.2	362.9	335	338	321	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6700160	10464308	City of Guelph	21 Municipal Wells	C	10/14/59	562,453	4,828,671	32.0	9.1	352.2	329	337	323	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6700957	10465103	City of Guelph	21 Municipal Wells	C	11/07/63	553,611	4,822,267	59.7	9.8	346.0	306	318	299	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6701114	10465259	City of Guelph	21 Municipal Wells	C	6/22/66	564,223	4,826,882	36.6	0.9	344.8	337	319	318	margin of error : 10 - 30 m	from gps
6701126	10465271	City of Guelph	21 Municipal Wells	C	8/29/66	563,232	4,826,094	57.9	1.2	346.1	333	324	311	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6701127	10465272	City of Guelph	21 Municipal Wells	C	12/05/66	563,212	4,826,098	67.4	1.2	345.8	331	324	311	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6701190	10465335	City of Guelph	21 Municipal Wells	C	6/01/49	561,099	4,826,530	29.9	3.0	345.2	335	327	316	UTM very unreliable	Original Pre1985 UTM Rel Code 9: unknown UTM
6701191	10465336	City of Guelph	21 Municipal Wells	C	1/13/64	561,631	4,827,055	62.2	14.6	357.3	332	329	318	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6701201	10465346	City of Guelph	21 Municipal Wells	C	3/19/64	561,353	4,826,899	39.6	15.2	353.5	335	327	317	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6701210	10465355	City of Guelph	21 Municipal Wells	C	8/17/61	558,914	4,827,239	34.1	7.6	346.0	332	334	316	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6703306	10467448	City of Guelph	21 Municipal Wells	C	1/16/69	561,294	4,826,823	54.9	15.8	353.0	335	327	317	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6703310	10467452	City of Guelph	21 Municipal Wells	C	1/30/69	555,774	4,825,273	68.0	6.5	344.5	336	333	294	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6703339	10467481	City of Guelph	21 Municipal Wells	C	3/06/69	557,014	4,825,343	54.9	12.8	342.6	322	332	299	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6703585	10467720	City of Guelph	21 Municipal Wells	C	8/27/69	562,834	4,826,873	42.7	8.5	346.1	325	330	315	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6703877	10468007	City of Guelph	21 Municipal Wells	C	1/18/71	561,084	4,826,713	48.2	13.7	354.5	335	326	317	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6703884	10468014	City of Guelph	21 Municipal Wells	C	2/11/71	559,154	4,827,483	52.4	16.8	355.7	337	334	318	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6703974	10468099	City of Guelph	21 Municipal Wells	C	3/26/71	561,364	4,826,963	57.9	19.2	354.4	333	327	317	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6704093	10468211	City of Guelph	21 Municipal Wells	C	11/12/71	557,914	4,826,788	61.6	16.8	357.7	326	334	310	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6704307	10468419	City of Guelph	21 Municipal Wells	C	1/13/64	554,214	4,819,123	48.8	15.2	328.3	282	314	289	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6704341	10468452	City of Guelph	21 Municipal Wells	C	9/08/72	562,774	4,825,863	49.4	18.3	357.7	309	322	310	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6704489	10468597	City of Guelph	21 Municipal Wells	C	11/24/72	557,554	4,825,883	67.1	7.6	352.8	343	335	304	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6704498	10468606	City of Guelph	21 Municipal Wells	C	10/18/72	559,184	4,816,963	49.1	7.3	328.1	313	303	281	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6704727	10468834	City of Guelph	21 Municipal Wells	C	7/16/73	555,796	4,825,056	68.9	4.6	346.5	334	332	292	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6704965	10469068	City of Guelph	21 Municipal Wells	C	11/27/73	563,233	4,827,079	43.0	13.7	356.2	334	331	317	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6705001	10469103	City of Guelph	21 Municipal Wells	C	2/22/74	554,114	4,822,143	47.2	15.8	350.2	324	320	304	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6705184	10469282	City of Guelph	21 Municipal Wells	C	7/23/74	564,078	4,827,330	38.1	12.2	349.6	338	327	317	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6705389	10469483	City of Guelph	21 Municipal Wells	C	10/17/74	558,114	4,826,463	55.5	7.6	341.8	335	331	309	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6705390	10469484	City of Guelph	21 Municipal Wells	C	10/05/74	561,614	4,827,273	41.5	16.8	359.3	334	329	318	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6705391	10469485	City of Guelph	21 Municipal Wells	C	9/25/74	561,714	4,827,283	43.9	16.8	360.0	330	330	318	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6705394	10469488	City of Guelph	21 Municipal Wells	C	12/06/74	557,834	4,827,083	76.8	22.9	366.6	335	335	312	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6705558	10469648	City of Guelph	21 Municipal Wells	C	6/16/75	558,163	4,826,422	45.1	12.5	340.9	325	331	309	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6705712	10469801	City of Guelph	21 Municipal Wells	C	9/19/75	557,554	4,825,243	39.3	2.1	338.4	326	328	301	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6706197	10470277	City of Guelph	21 Municipal Wells	C	7/08/76	561,864	4,826,073	42.7	25.9	347.3	331	326	312	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6706337	10470416	City of Guelph	21 Municipal Wells	C	9/22/76	554,114	4,823,603	69.2	10.1	347.1	327	321	291	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6706375	10470453	City of Guelph	21 Municipal Wells	C	4/20/77	562,414	4,828,823	40.2	20.4	353.2	323	337	324	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6706445	10470523	City of Guelph	21 Municipal Wells	C	4/12/77	563,164	4,826,123	47.2	9.1	344.9	326	324	311	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6706707	10470779	City of Guelph	21 Municipal Wells	C	5/30/78	563,314	4,827,423	50.3	18.6	360.6	337	335	318	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6706755	10470826	City of Guelph	21 Municipal Wells	C	8/01/78	560,564	4,828,723	67.1	14.3	360.0	333	326	323	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6706780	10470851	City of Guelph	21 Municipal Wells	C	8/18/78	560,314	4,828,523	85.3	22.9	365.3	335	326	323	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6706781	10470852	City of Guelph	21 Municipal Wells	C	8/23/78	560,214	4,828,423	60.0	19.5	366.2	333	327	323	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6706814	10470885	City of Guelph	21 Municipal Wells	C	10/03/78	554,214	4,823,003	54.9	13.7	343.7	311	317	297	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6706820	10470891	City of Guelph	21 Municipal Wells	C	8/26/78	554,114	4,822,203	83.8	17.1	349.0	325	320	303	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6707012	10471078	City of Guelph	21 Municipal Wells	C	7/09/79	561,514	4,825,823	48.8	6.7	354.5	338	327	312	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6707337	10471389	City of Guelph	21 Municipal Wells	C	9/22/80	558,014	4,826,283	72.8	11.0	344.2	334	332	308	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6707338	10471390	City of Guelph	21 Municipal Wells	C	10/17/80	560,079	4,816,656	35.1	5.5	306.7	304	300	279	margin of error : 10 - 30 m	from gps
6707499	10471542	City of Guelph	21 Municipal Wells	C	9/18/81	557,854	4,827,083	58.8	21.3	367.3	341	335	312	margin of error : 30 m - 100 m	on Water Well Record
6707714	10471743	City of Guelph	21 Municipal Wells	C	10/22/82	556,454	4,816,963	59.4	9.1	332.0	326	319	274	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6707916	10471916	City of Guelph	21 Municipal Wells	C	6/11/84	560,094	4,828,663	88.4	9.1	367.8	341	330	325	margin of error : 30 m - 100 m	on Water Well Record
6707917	10471917	City of Guelph	21 Municipal Wells	C	6/11/84	560,774	4,828,023	79.2	61.0	354.9	308	315	316	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6707918	10471918	City of Guelph	21 Municipal Wells	C	6/11/84	560,534	4,828,243	83.8	14.0	358.8	314	320	319	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6708297	10472207	City of Guelph	21 Municipal Wells	C	5/06/85	559,429	4,828,321	51.8	5.8	367.2	346	334	323	margin of error : 10 - 30 m	from gps
6708441	10472347	City of Guelph	21 Municipal Wells	C	5/12/86	562,773	4,826,660	26.7	34.2	342.3	328	329	314	margin of error : 10 - 30 m	from gps
6708547	10472442	City of Guelph	21 Municipal Wells	C	9/23/86	554,042	4,822,093	56.4	10.1	350.0	324	319	304	margin of error : 10 - 30 m	from gps
6708873	10472762	City of Guelph	21 Municipal Wells	C	7/24/87	555,895	4,823,153	48.8	4.6	344.5	332	329	297	margin of error : 10 - 30 m	from gps
6709285	10473142	City of Guelph	21 Municipal Wells	C	7/11/88	561,435	4,826,528	64.0	7.0	343.7	336	327	316	margin of error : 10 - 30 m	from gps
6709304	10473161	City of Guelph	21 Municipal Wells	C	6/30/88	559,074	4,817,063	56.1	8.8	325.6	316	304	281	margin of error : 10 - 30 m	from gps
6709334	10473782	City of Guelph	21 Municipal Wells	C	7/30/89	558,541	4,827,162	47.2	10.4	350.0	336	334	315	margin of error : 10 - 30 m	from gps
6709339	10473787	City of Guelph	21 Municipal Wells	C	8/16/89	554,592	4,823,724	62.5	14.3	347.2	328	322	289	margin of error : 10 - 30 m	from gps
6710018	10473866	City of Guelph	21 Municipal Wells	C	4/01/89	561,705	4,827,195	56.7	13.7	358.9	350	330	318	margin of error : 10 - 30 m	from gps
6710019	10473867	City of Guelph	21 Municipal Wells	C	9/09/89	559,834	4,816,465	60.0	10.7	310.9	306	299	278	margin of error : 10 - 30 m	from gps
6710448	10474293	City of Guelph	21 Municipal Wells	C	9/20/90	561,518	4,829,561	42.1	10.7	363.1	336	330	328	margin of error : 100 m - 300 m	from gps
6710573															

Appendix A
MECP Water Well Records Interpreted as Potential Multiaquifer Wells

Well ID	Borehole ID	Water Supply	Supply Well (s)	WHPA	Date Completed	Easting	Northing	Well Depth (m)	Static Water Level (m)	Ground Elevation (mAMSL)	Top of Rock (mAMSL)	Bottom of Guelph Formation (mAMSL)	Bottom of Aquifer (mAMSL)	UTM Reliability	Location Method
6711540	10475373	City of Guelph	21 Municipal Wells	C	9/20/94	553,748	4,823,032	67.1	10.7	342.6	320	319	296	margin of error : 10 - 30 m	from gps
6711826	10475699	City of Guelph	21 Municipal Wells	C	7/06/95	559,041	4,817,007	97.5	10.4	325.5	313	304	281	margin of error : 10 - 30 m	from gps
6711922	10475755	City of Guelph	21 Municipal Wells	C	2/08/96	553,866	4,822,867	79.2	7.9	344.8	324	318	297	margin of error : 10 - 30 m	from gps
6712090	10475923	City of Guelph	21 Municipal Wells	C	8/30/96	553,915	4,822,863	77.1		344.8	325	318	298	margin of error : 10 - 30 m	from gps
6712091	10475924	City of Guelph	21 Municipal Wells	C	8/29/96	553,941	4,822,897	73.2	9.1	344.5	325	318	297	margin of error : 10 - 30 m	from gps
6712116	10475949	City of Guelph	21 Municipal Wells	C	10/28/96	561,836	4,826,003	48.8	28.3	349.7	330	326	312	margin of error : 10 - 30 m	from gps
6712164	10475997	City of Guelph	21 Municipal Wells	C	12/19/96	553,742	4,822,782	82.9	9.1	344.7	323	318	297	margin of error : 10 - 30 m	from gps
6712187	10476020	City of Guelph	21 Municipal Wells	C	2/06/97	553,921	4,822,933	61.0	9.1	344.1	321	318	297	margin of error : 10 - 30 m	from gps
6712207	10476040	City of Guelph	21 Municipal Wells	C	3/13/97	553,708	4,822,740	79.2	8.2	344.8	324	318	297	margin of error : 10 - 30 m	from gps
6712230	10476063	City of Guelph	21 Municipal Wells	C	4/09/97	553,793	4,822,839	79.2	10.4	344.6	324	318	297	margin of error : 10 - 30 m	from gps
6712278	10476111	City of Guelph	21 Municipal Wells	C	6/17/97	553,717	4,822,692	79.2	8.8	345.0	325	318	297	margin of error : 10 - 30 m	from gps
6712379	10476212	City of Guelph	21 Municipal Wells	C	10/09/97	553,875	4,822,823	59.4	8.5	345.3	325	318	297	margin of error : 10 - 30 m	from gps
6712442	10476275	City of Guelph	21 Municipal Wells	C	12/11/97	562,221	4,827,850	45.7		358.4	333	334	321	margin of error : 10 - 30 m	from gps
6712443	10476276	City of Guelph	21 Municipal Wells	C	2/19/97	562,151	4,827,858	76.2	13.1	355.5	330	334	321	margin of error : 10 - 30 m	from gps
6712444	10476277	City of Guelph	21 Municipal Wells	C	11/27/97	562,170	4,827,851	53.3	14.6	356.3	331	334	321	margin of error : 10 - 30 m	from gps
6712503	10476336	City of Guelph	21 Municipal Wells	C	4/13/98	553,762	4,822,743	79.9	6.1	345.1	325	318	297	margin of error : 10 - 30 m	from gps
6712692	10476525	City of Guelph	21 Municipal Wells	C	9/16/99	561,872	4,826,200	31.1	2.7	342.4	328	327	313	margin of error : 10 - 30 m	from gps
6712734	10476567	City of Guelph	21 Municipal Wells	C	10/07/98	559,295	4,817,689	45.1		325.1	321	304	282	margin of error : 10 - 30 m	from gps
6713032	10476865	City of Guelph	21 Municipal Wells	C	7/16/99	553,866	4,822,856	74.7	6.1	344.9	325	318	297	margin of error : 10 - 30 m	from gps
6713158	10476991	City of Guelph	21 Municipal Wells	C	10/25/99	560,433	4,829,524	37.5	2.1	357.3	335	331	329	UTM very unreliable	Lot centroid
6713283	10477116	City of Guelph	21 Municipal Wells	C	3/28/00	562,055	4,829,202	42.7	9.1	357.5	331	335	327	margin of error : 10 - 30 m	from gps
6713615	10477448	City of Guelph	21 Municipal Wells	C	1/09/01	553,671	4,822,748	85.3	6.7	344.5	324	318	297	margin of error : 10 - 30 m	from gps
6713913	10523045	City of Guelph	21 Municipal Wells	C	10/11/01	559,423	4,828,237	48.8	4.9	366.7	344	334	322	margin of error : 10 - 30 m	from gps
6714412	10542257	City of Guelph	21 Municipal Wells	C	3/07/02	558,209	4,826,457	71.9		340.1	328	331	309	Approximate location; margin of error : 1 km - 3 km	Lot centroid
6714576	10548127	City of Guelph	21 Municipal Wells	C	9/00/03	562,917	4,828,236	56.1	19.5	361.6	333	338	321	margin of error : 100 m - 300 m	provided by Well Contractor; method likely gps but uncertain
6714621	10548172	City of Guelph	21 Municipal Wells	C	9/30/03	562,604	4,829,378	57.9	7.9	369.0	343	340	327	UTM very unreliable	Lot centroid
6715186	11179822	City of Guelph	21 Municipal Wells	C	9/08/04	561,499	4,826,452	30.5	4.3	341.8	334	327	315	margin of error : 10 - 30 m	on Water Well Record
6715197	11179833	City of Guelph	21 Municipal Wells	C	9/30/04	562,875	4,828,280	42.7	15.5	363.1	335	338	321	margin of error : 10 - 30 m	on Water Well Record
6715449	11327235	City of Guelph	21 Municipal Wells	C	7/19/05	563,258	4,826,085	61.6	3.7	346.5	332	322	311	margin of error : 30 m - 100 m	on Water Well Record
6715698	11558219	City of Guelph	21 Municipal Wells	C	2/21/06	559,878	4,828,300	73.8	10.4	368.3	330	329	323	margin of error : 10 - 30 m	on Water Well Record
7045258	11776773	City of Guelph	21 Municipal Wells	C	5/23/07	558,556	4,827,138	44.5	10.1	348.5	334	334	314	margin of error : 10 - 30 m	on Water Well Record
7102466	1001535373	City of Guelph	21 Municipal Wells	C	10/22/07	559,334	4,828,550	59.7	19.4	366.4	342	335	324	margin of error : 10 - 30 m	on Water Well Record
7121857	1002415970	City of Guelph	21 Municipal Wells	C	9/29/08	564,582	4,828,346	76.5	11.2	353.8	342	324	311	margin of error : 10 - 30 m	on Water Well Record
7121922	1002416440	City of Guelph	21 Municipal Wells	C	7/09/08	555,102	4,824,032	96.7		341.3	317	325	285	margin of error : 10 - 30 m	on Water Well Record
7159896	1003481286	City of Guelph	21 Municipal Wells	C	12/18/10	553,559	4,822,793	71.9		343.9	324	318	296	margin of error : 10 - 30 m	on Water Well Record
7203163	1004344388	City of Guelph	21 Municipal Wells	C	4/30/13	558,956	4,817,402	54.9	1.5	323.6	317	307	282	margin of error : 30 m - 100 m	on Water Well Record
7210166	1004616557	City of Guelph	21 Municipal Wells	C	9/04/13	555,430	4,825,402	79.2	10.4	345.6	334	332	291	margin of error : 30 m - 100 m	on Water Well Record
7229425	1005161165	City of Guelph	21 Municipal Wells	C	7/21/14	563,358	4,827,331	62.7	18.3	358.7	339	334	318	margin of error : 30 m - 100 m	YPD: Assessment ; OBM/OrothPhoto
7238150	1005311430	City of Guelph	21 Municipal Wells	C	1/27/15	559,162	4,817,175	62.2	13.4	325.2	316	304	282	margin of error : 30 m - 100 m	on Water Well Record
7248070	1005682135	City of Guelph	21 Municipal Wells	C	8/04/15	559,882	4,816,642	50.3	5.9	311.2	307	300	279	margin of error : 30 m - 100 m	on Water Well Record
7253750	1005832094	City of Guelph	21 Municipal Wells	C	11/03/15	563,823	4,827,350	53.3	17.1	352.5	339	332	317	margin of error : 30 m - 100 m	on Water Well Record
7254747	1005843922	City of Guelph	21 Municipal Wells	C	12/04/15	559,915	4,815,769	38.4		304.8	292	296	270	margin of error : 30 m - 100 m	on Water Well Record
7256089	1005869375	City of Guelph	21 Municipal Wells	C	12/09/15	559,057	4,817,346	56.4	5.4	323.0	315	305	282	margin of error : 30 m - 100 m	on Water Well Record
7264374	1006038697	City of Guelph	21 Municipal Wells	C	4/21/16	561,686	4,825,871	56.4	6.5	353.8	335	327	312	margin of error : 30 m - 100 m	on Water Well Record
7274477	1006288045	City of Guelph	21 Municipal Wells	C	10/11/16	561,611	4,829,329	47.9	14.0	368.9	351	331	328	margin of error : 30 m - 100 m	on Water Well Record
7334558	1007478359	City of Guelph	21 Municipal Wells	C	5/09/19	559,761	4,816,293	48.8	8.8	310.1	303	298	277	margin of error : 30 m - 100 m	on Water Well Record
7370845	1008475523	City of Guelph	21 Municipal Wells	C	9/17/20	555,657	4,825,245	62.2	5.5	344.9	337	333	293	margin of error : 30 m - 100 m	on Water Well Record
7385280	1008610707	City of Guelph	21 Municipal Wells	C	4/01/21	562,266	4,814,049	72.8	17.8	333.7	304	300	278	margin of error : 30 m - 100 m	on Water Well Record
7420533	1009069071	City of Guelph	21 Municipal Wells	C	1/08/22	564,234	4,826,874	69.5		345.1	336	319	318	margin of error : 30 m - 100 m	on Water Well Record
6701223	10465368	City of Guelph	21 Municipal Wells	D	9/28/66	557,976	4,828,573	61.0	11.3	361.8	349	342	321	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6701224	10465369	City of Guelph	21 Municipal Wells	D	6/10/54	559,579	4,830,325	39.6	15.2	362.9	354	344	335	UTM very unreliable	Original Pre1985 UTM Rel Code 9: unknown UTM
6701226	10465371	City of Guelph	21 Municipal Wells	D	7/18/67	559,636	4,830,781	19.8	1.5	356.0	355	347	337	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6701229	10465374	City of Guelph	21 Municipal Wells	D	7/25/64	558,624	4,829,898	65.8	11.6	379.8	368	342	331	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6701232	10465377	City of Guelph	21 Municipal Wells	D	8/19/67	559,570	4,831,369	38.1	5.5	362.6	354	345	339	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6701236	10465381	City of Guelph	21 Municipal Wells	D	10/04/52	558,547	4,832,078	58.8	3.0	367.6	358	350	338	UTM very unreliable	Original Pre1985 UTM Rel Code 9: unknown UTM
6701327	10465472	City of Guelph	21 Municipal Wells	D	1/16/53	554,332	4,825,353	96.0	1.2	350.9	335	332	292	UTM very unreliable	Original Pre1985 UTM Rel Code 9: unknown UTM
6701815	10465960	City of Guelph	21 Municipal Wells	D	1/14/61	554,537	4,832,437	42.7	6.1	378.1	357	343	337	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6701819	10465964	City of Guelph	21 Municipal Wells	D	8/10/67	556,785	4,833,998	47.5	3.7	375.8	358	349	346	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6701827	10465972	City of Guelph	21 Municipal Wells	D	6/29/66	552,716	4,829,579	58.8	9.1	371.6	346	336	315	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6701829	10465974	City of Guelph	21 Municipal Wells	D	5/29/67	552,751	4,829,885	54.9	0.0	371.7	359	337	317	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6701835	10465980	City of Guelph	21 Municipal Wells	D	10/15/66	557,016	4,833,683	51.8	8.2	378.5	360	348	345	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6702149	10466294	City of Guelph	21 Municipal Wells	D	11/26/66	552,902	4,829,260	69.2	8.5	368.9	347	339	313	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6702162	10466307	City of Guelph	21 Municipal Wells	D	8/05/66	552,214	4,829,943	65.5	3.4	372.2	350	327	316	UTM very unreliable	Original Pre1985 UTM Rel Code 9: unknown UTM
6703060	10467202	City of Guelph	21 Municipal Wells	D	6/22/68	557,954	4,833,113	41.1	8.2	366.7	350	346	340	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6703061	10467203	City of Guelph	21 Municipal Wells	D	8/14/68	557,134	4,833,823	45.7	5.2	375.8	364	349	346	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6703108	10467250	City of Guelph	21 Municipal Wells	D	7/24/68	552,164	4,830,123	61.9	7.6	372.1	351	327	316	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6703110	10467252	City of Guelph	21 Municipal Wells	D	8/27/68	552,914	4,829,973	56.4	1.8	371.3	356	347	318	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6703161	10467303	City of Guelph	21 Municipal Wells	D	10/04/68	559,314	4,814,683	70.1	25.0	311.3	287	298	266	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6703255	10467397	City of Guelph	21 Municipal Wells	D	12/21/68	552,214	4,830,123	62.8	6.4	372.0	348	328	317	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code

Appendix A
MECP Water Well Records Interpreted as Potential Multiaquifer Wells

Well ID	Borehole ID	Water Supply	Supply Well (s)	WHPA	Date Completed	Easting	Northing	Well Depth (m)	Static Water Level (m)	Ground Elevation (mAMSL)	Top of Rock (mAMSL)	Bottom of Guelph Formation (mAMSL)	Bottom of Aquifer (mAMSL)	UTM Reliability	Location Method
6700164	10464312	City of Guelph	21 Municipal Wells	D	4/02/63	561.769	4,830,983	36.0	8.5	356.4	331	337	334	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6700165	10464313	City of Guelph	21 Municipal Wells	D	2/03/62	560.938	4,831,803	38.1	7.6	371.0	349	346	338	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6700166	10464314	City of Guelph	21 Municipal Wells	D	7/20/54	560.516	4,832,103	49.1	7.6	374.8	357	346	340	UTM very unreliable	Original Pre1985 UTM Rel Code 9: unknown UTM
6700170	10464318	City of Guelph	21 Municipal Wells	D	10/20/61	558.501	4,833,971	53.9	12.2	382.8	367	351	345	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6700171	10464319	City of Guelph	21 Municipal Wells	D	5/26/55	557.512	4,833,901	36.6	8.2	380.9	366	349	345	UTM very unreliable	Original Pre1985 UTM Rel Code 9: unknown UTM
6700173	10464321	City of Guelph	21 Municipal Wells	D	6/15/65	557.600	4,834,758	44.2	5.8	389.5	365	352	346	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6700175	10464323	City of Guelph	21 Municipal Wells	D	11/23/57	556.651	4,835,676	50.3	9.1	395.8	388	353	348	UTM very unreliable	Original Pre1985 UTM Rel Code 9: unknown UTM
6700228	10464376	City of Guelph	21 Municipal Wells	D	10/29/63	564.674	4,830,101	45.7	5.5	362.1	356	343	327	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6700232	10464380	City of Guelph	21 Municipal Wells	D	4/10/63	563.558	4,829,542	29.6	3.0	355.3	334	340	328	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6700240	10464388	City of Guelph	21 Municipal Wells	D	8/13/65	563.366	4,829,980	35.7	13.1	364.5	344	343	329	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6700248	10464396	City of Guelph	21 Municipal Wells	D	6/13/66	562.921	4,831,900	37.2	10.7	372.4	357	352	337	margin of error : 10 - 30 m	from gps
6700250	10464398	City of Guelph	21 Municipal Wells	D	10/18/63	559.776	4,832,982	30.2	8.5	369.3	354	352	340	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6700251	10464399	City of Guelph	21 Municipal Wells	D	6/11/55	559.737	4,833,721	33.8	2.4	365.0	355	353	342	UTM very unreliable	Original Pre1985 UTM Rel Code 9: unknown UTM
6700253	10464401	City of Guelph	21 Municipal Wells	D	5/05/66	557.694	4,835,620	61.0	18.3	397.0	376	353	348	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6700256	10464404	City of Guelph	21 Municipal Wells	D	12/05/63	556.803	4,836,075	59.4	13.7	399.0	386	354	349	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6700268	10464416	City of Guelph	21 Municipal Wells	D	5/07/56	565.803	4,831,048	48.8	9.1	366.3	350	344	325	UTM very unreliable	Original Pre1985 UTM Rel Code 9: unknown UTM
6700270	10464418	City of Guelph	21 Municipal Wells	D	9/26/67	564.821	4,830,295	78.6	26.8	369.3	338	343	328	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6700271	10464419	City of Guelph	21 Municipal Wells	D	6/14/62	564.175	4,830,846	25.3	4.6	358.6	340	351	335	UTM very unreliable	Original Pre1985 UTM Rel Code 9: unknown UTM
6700272	10464420	City of Guelph	21 Municipal Wells	D	5/30/64	565.150	4,831,695	36.3	9.1	363.2	359	355	340	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6700274	10464422	City of Guelph	21 Municipal Wells	D	8/11/54	564.419	4,830,614	41.1	12.2	367.2	351	349	334	UTM very unreliable	Original Pre1985 UTM Rel Code 9: unknown UTM
6700282	10464429	City of Guelph	21 Municipal Wells	D	1/04/64	563.384	4,831,677	44.8	10.7	372.6	361	353	337	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6700283	10464430	City of Guelph	21 Municipal Wells	D	7/14/64	563.804	4,831,734	46.9	6.1	368.2	357	357	337	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6700284	10464431	City of Guelph	21 Municipal Wells	D	7/12/58	564.064	4,832,736	30.8	9.1	370.3	364	357	341	UTM very unreliable	Original Pre1985 UTM Rel Code 9: unknown UTM
6700285	10464432	City of Guelph	21 Municipal Wells	D	12/13/57	562.781	4,832,355	38.4	12.2	365.6	362	352	339	UTM very unreliable	Original Pre1985 UTM Rel Code 9: unknown UTM
6700288	10464435	City of Guelph	21 Municipal Wells	D	9/17/63	561.165	4,833,880	43.6	18.3	380.3	347	348	341	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6700289	10464436	City of Guelph	21 Municipal Wells	D	6/12/67	560.695	4,835,041	45.7	0.0	390.7	384	351	345	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6700290	10464437	City of Guelph	21 Municipal Wells	D	7/24/63	559.931	4,834,912	23.5	2.4	368.5	368	353	345	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6700292	10464439	City of Guelph	21 Municipal Wells	D	5/27/65	559.748	4,835,081	24.4	3.7	369.6	369	353	346	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6700293	10464440	City of Guelph	21 Municipal Wells	D	5/09/61	560.244	4,836,278	51.2	13.4	387.8	372	355	348	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6700385	10464531	City of Guelph	21 Municipal Wells	D	1/07/64	566.198	4,831,140	54.3	10.7	368.8	353	333	326	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6700396	10464542	City of Guelph	21 Municipal Wells	D	1/20/56	565.189	4,833,347	30.5	5.2	376.0	370	360	346	UTM very unreliable	Original Pre1985 UTM Rel Code 9: unknown UTM
6700397	10464543	City of Guelph	21 Municipal Wells	D	8/31/55	564.666	4,834,026	45.1	12.2	381.4	381	360	347	UTM very unreliable	Original Pre1985 UTM Rel Code 9: unknown UTM
6700400	10464546	City of Guelph	21 Municipal Wells	D	3/10/58	562.377	4,834,702	38.4	9.1	374.2	354	353	344	UTM very unreliable	Original Pre1985 UTM Rel Code 9: unknown UTM
6700401	10464547	City of Guelph	21 Municipal Wells	D	11/26/53	561.471	4,835,485	42.4	11.6	380.9	360	354	345	UTM very unreliable	Original Pre1985 UTM Rel Code 9: unknown UTM
6700479	10464625	City of Guelph	21 Municipal Wells	D	6/11/55	565.382	4,833,232	31.4	3.7	376.6	374	361	347	UTM very unreliable	Original Pre1985 UTM Rel Code 9: unknown UTM
6700961	10465107	City of Guelph	21 Municipal Wells	D	2/23/64	557.894	4,815,702	47.2	15.8	318.7	304	305	276	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6700971	10465117	City of Guelph	21 Municipal Wells	D	10/27/59	553.002	4,820,515	46.3	7.3	339.5	323	312	295	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6700976	10465122	City of Guelph	21 Municipal Wells	D	9/23/63	557.656	4,815,587	46.3	13.4	317.2	303	305	272	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6701013	10465159	City of Guelph	21 Municipal Wells	D	10/21/66	557.724	4,815,080	38.7	5.2	304.9	304	300	268	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6703318	10467460	City of Guelph	21 Municipal Wells	D	3/04/69	558.334	4,815,943	48.8	12.8	321.0	306	304	279	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6703474	10467612	City of Guelph	21 Municipal Wells	D	12/06/69	559.144	4,835,923	54.9	10.1	396.8	375	354	347	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6703506	10467643	City of Guelph	21 Municipal Wells	D	11/05/69	565.444	4,831,363	43.3	4.6	363.4	357	352	335	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6703580	10467715	City of Guelph	21 Municipal Wells	D	10/20/69	560.244	4,832,583	32.0	6.1	367.6	355	348	340	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6703588	10467723	City of Guelph	21 Municipal Wells	D	10/14/69	558.644	4,830,023	61.0	18.3	382.2	367	342	332	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6703610	10467745	City of Guelph	21 Municipal Wells	D	1/30/70	557.814	4,833,173	40.2	7.6	369.8	356	346	341	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6703642	10467776	City of Guelph	21 Municipal Wells	D	3/06/70	559.524	4,830,833	24.4	5.5	358.8	359	341	337	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6703658	10467792	City of Guelph	21 Municipal Wells	D	5/11/70	554.734	4,832,363	39.6	4.6	373.3	356	341	337	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6703675	10467809	City of Guelph	21 Municipal Wells	D	5/20/70	561.694	4,831,023	33.5	3.0	357.6	339	336	334	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6703778	10467910	City of Guelph	21 Municipal Wells	D	8/27/70	557.884	4,829,993	57.9	9.1	380.8	370	342	330	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6703862	10467992	City of Guelph	21 Municipal Wells	D	12/23/70	564.594	4,830,473	65.2	24.4	378.2	338	347	332	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6703914	10468042	City of Guelph	21 Municipal Wells	D	5/03/71	563.984	4,832,773	30.5	7.6	370.4	364	357	341	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6703989	10468113	City of Guelph	21 Municipal Wells	D	7/17/71	558.914	4,830,183	56.1	10.7	372.7	364	344	333	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6704020	10468142	City of Guelph	21 Municipal Wells	D	9/29/71	557.664	4,815,173	43.3	8.5	308.3	308	301	268	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6704107	10468223	City of Guelph	21 Municipal Wells	D	12/07/71	559.114	4,830,393	56.1	1.8	365.1	360	344	335	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6704124	10468238	City of Guelph	21 Municipal Wells	D	11/19/71	557.489	4,832,698	39.6	10.7	377.0	354	348	340	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6704139	10468252	City of Guelph	21 Municipal Wells	D	1/06/72	557.464	4,835,103	44.8	6.7	391.3	370	352	347	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6704154	10468267	City of Guelph	21 Municipal Wells	D	8/04/71	556.514	4,836,143	51.8	8.5	400.4	387	353	349	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6704200	10468313	City of Guelph	21 Municipal Wells	D	12/17/72	559.284	4,830,193	61.6	3.7	365.8	360	342	334	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6704228	10468341	City of Guelph	21 Municipal Wells	D	4/04/72	552.794	4,827,673	72.2	15.2	368.6	335	335	304	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6704251	10468364	City of Guelph	21 Municipal Wells	D	6/14/72	564.864	4,831,923	31.7	2.7	371.3	362	357	340	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6704292	10468404	City of Guelph	21 Municipal Wells	D	7/07/72	559.214	4,830,473	46.6	4.6	368.1	344	345	335	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6704414	10468523	City of Guelph	21 Municipal Wells	D	10/31/72	564.834	4,832,183	37.2	10.4	376.8	358	357	341	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6704488	10468596	City of Guelph	21 Municipal Wells	D	11/24/72	561.814	4,833,273	34.1	2.4	372.4	355	347	341	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6704494	10468602	City of Guelph	21 Municipal Wells	D	11/30/72	564.464	4,831,853	32.9	6.7	368.2					

Appendix A
MECP Water Well Records Interpreted as Potential Multiaquifer Wells

Well ID	Borehole ID	Water Supply	Supply Well (s)	WHPA	Date Completed	Easting	Northing	Well Depth (m)	Static Water Level (m)	Ground Elevation (mAMSLL)	Top of Rock (mAMSLL)	Bottom of Guelph Formation (mAMSLL)	Bottom of Aquifer (mAMSLL)	UTM Reliability	Location Method
6705238	10469333	City of Guelph	21 Municipal Wells	D	8/21/74	563,879	4,832,963	39.3	6.4	370.6	362	356	342	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6705239	10469334	City of Guelph	21 Municipal Wells	D	8/12/74	557,614	4,815,223	43.3	10.7	319.9	307	307	268	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6705242	10469337	City of Guelph	21 Municipal Wells	D	7/19/74	558,864	4,830,143	60.0	12.2	375.7	366	344	333	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6705272	10469367	City of Guelph	21 Municipal Wells	D	9/04/74	554,559	4,833,077	52.3		385.0	359	355	340	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6705293	10469388	City of Guelph	21 Municipal Wells	D	10/02/74	560,244	4,836,358	47.7	11.6	390.3	372	355	348	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6705301	10469396	City of Guelph	21 Municipal Wells	D	10/02/74	560,074	4,836,473	58.5	11.0	400.1	374	356	348	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6705334	10469428	City of Guelph	21 Municipal Wells	D	10/17/74	560,064	4,834,973	35.7	7.6	375.5	367	352	345	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6705473	10469566	City of Guelph	21 Municipal Wells	D	7/11/74	560,994	4,833,683	50.3	7.9	376.1	355	347	341	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6705484	10469577	City of Guelph	21 Municipal Wells	D	1/14/74	561,964	4,835,823	54.9	5.8	381.1	375	355	346	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6705576	10469666	City of Guelph	21 Municipal Wells	D	7/01/75	554,764	4,831,973	41.1	11.0	376.1	363	338	335	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6705580	10469670	City of Guelph	21 Municipal Wells	D	5/07/75	558,454	4,816,283	61.0	10.1	326.4	315	306	278	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6705611	10469701	City of Guelph	21 Municipal Wells	D	4/14/75	557,734	4,815,123	41.1	5.5	305.9	306	300	268	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6705621	10469711	City of Guelph	21 Municipal Wells	D	8/08/74	565,614	4,835,323	65.5	17.4	395.6	368	358	347	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6705635	10469724	City of Guelph	21 Municipal Wells	D	8/20/74	562,464	4,834,023	42.7	0.9	366.6	361	353	343	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6705644	10469733	City of Guelph	21 Municipal Wells	D	1/12/75	556,889	4,835,887	50.3	7.6	396.4	392	353	348	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6705653	10469742	City of Guelph	21 Municipal Wells	D	6/28/75	561,614	4,831,473	40.2	15.2	367.6	333	340	336	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6705679	10469768	City of Guelph	21 Municipal Wells	D	7/08/75	559,314	4,833,273	33.5	3.0	365.9	356	352	342	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6705704	10469793	City of Guelph	21 Municipal Wells	D	9/04/75	559,733	4,832,927	43.9	12.2	371.1	350	352	340	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6705708	10469797	City of Guelph	21 Municipal Wells	D	9/12/75	559,864	4,834,973	23.2	0.0	367.3	362	353	346	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6705799	10469888	City of Guelph	21 Municipal Wells	D	10/29/75	553,414	4,822,863	71.3	12.2	343.6	325	318	295	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6705850	10469934	City of Guelph	21 Municipal Wells	D	12/05/75	564,364	4,830,723	32.0	7.0	362.3	347	350	334	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6705924	10470008	City of Guelph	21 Municipal Wells	D	8/05/75	558,264	4,830,673	67.4	12.2	359.4	303	314	318	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6705963	10470045	City of Guelph	21 Municipal Wells	D	10/20/75	554,564	4,832,923	68.6	5.5	383.9	350	354	340	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6705964	10470046	City of Guelph	21 Municipal Wells	D	11/06/75	565,464	4,829,323	70.1	39.6	361.5	304	316	303	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6706012	10470094	City of Guelph	21 Municipal Wells	D	5/25/76	552,464	4,829,473	60.4	7.3	371.2	350	332	314	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6706030	10470111	City of Guelph	21 Municipal Wells	D	4/29/74	557,214	4,833,973	41.1	3.4	376.2	368	350	346	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6706053	10470134	City of Guelph	21 Municipal Wells	D	8/05/75	552,414	4,827,873	64.0	15.8	361.9	334	331	304	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6706105	10470186	City of Guelph	21 Municipal Wells	D	6/16/76	560,593	4,813,731	74.7	38.7	327.5	299	298	266	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6706116	10470197	City of Guelph	21 Municipal Wells	D	6/01/76	558,714	4,831,923	30.5	2.1	365.9	363	348	338	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6706132	10470212	City of Guelph	21 Municipal Wells	D	7/09/76	557,414	4,833,423	47.2	13.7	376.2	358	347	344	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6706152	10470232	City of Guelph	21 Municipal Wells	D	8/11/76	558,314	4,834,873	76.5	1.8	388.1	382	352	346	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6706234	10470314	City of Guelph	21 Municipal Wells	D	9/30/76	552,864	4,829,223	78.3	10.4	369.6	349	334	312	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6706237	10470317	City of Guelph	21 Municipal Wells	D	11/06/76	552,574	4,826,423	71.3	11.3	358.7	334	331	297	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6706340	10470419	City of Guelph	21 Municipal Wells	D	10/27/76	557,464	4,833,173	37.8	4.9	374.7	359	346	343	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6706374	10470452	City of Guelph	21 Municipal Wells	D	4/18/77	559,314	4,829,783	58.2	5.5	363.8	350	347	331	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6706413	10470491	City of Guelph	21 Municipal Wells	D	6/14/77	560,564	4,834,423	39.6	11.0	376.7	360	350	343	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6706423	10470501	City of Guelph	21 Municipal Wells	D	6/29/77	561,914	4,830,923	59.4	2.7	357.4	347	338	333	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6706424	10470502	City of Guelph	21 Municipal Wells	D	5/24/77	553,714	4,828,473	77.1	1.2	368.4	360	347	310	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6706441	10470519	City of Guelph	21 Municipal Wells	D	6/02/77	557,514	4,833,273	33.2	5.5	374.1	361	347	343	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6706447	10470525	City of Guelph	21 Municipal Wells	D	6/30/77	553,664	4,825,473	70.1	13.1	358.6	339	333	293	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6706484	10470561	City of Guelph	21 Municipal Wells	D	6/15/77	565,914	4,830,573	79.2	14.0	359.2	281	328	313	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6706654	10470728	City of Guelph	21 Municipal Wells	D	10/21/77	555,764	4,827,023	47.2	30.5	348.8	342	344	305	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6706657	10470731	City of Guelph	21 Municipal Wells	D	11/30/77	565,764	4,829,673	65.5	22.9	364.9	354	320	312	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6706689	10470771	City of Guelph	21 Municipal Wells	D	6/05/78	552,514	4,821,023	64.3	10.1	341.6	316	313	293	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6706719	10470791	City of Guelph	21 Municipal Wells	D	4/30/78	561,464	4,831,573	42.1	15.2	375.9	338	341	337	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6706738	10470810	City of Guelph	21 Municipal Wells	D	7/26/78	556,964	4,833,673	45.7	9.4	378.2	357	348	345	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6706751	10470822	City of Guelph	21 Municipal Wells	D	7/25/78	552,614	4,827,773	75.3	20.4	367.3	334	334	304	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6706763	10470834	City of Guelph	21 Municipal Wells	D	7/18/78	560,214	4,833,173	50.3	8.1	368.8	361	353	340	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6706785	10470856	City of Guelph	21 Municipal Wells	D	8/30/78	553,414	4,822,943	79.2	9.1	342.8	325	318	295	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6706794	10470865	City of Guelph	21 Municipal Wells	D	8/17/78	553,114	4,830,123	61.0	4.6	371.9	355	345	319	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6706815	10470886	City of Guelph	21 Municipal Wells	D	9/29/78	561,764	4,834,823	51.8	4.6	378.3	367	353	344	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6706863	10470933	City of Guelph	21 Municipal Wells	D	11/06/78	562,794	4,829,703	40.2	8.5	358.6	339	342	328	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6706915	10470985	City of Guelph	21 Municipal Wells	D	8/08/78	559,764	4,831,073	38.1	4.6	364.0	362	347	338	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6706998	10471064	City of Guelph	21 Municipal Wells	D	6/20/79	561,914	4,835,073	72.5	7.6	381.0	368	354	344	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6706999	10471065	City of Guelph	21 Municipal Wells	D	5/18/79	558,264	4,832,623	45.4	10.7	371.9	353	348	331	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6707015	10471081	City of Guelph	21 Municipal Wells	D	7/10/79	553,764	4,825,373	77.7	18.3	358.6	337	332	293	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6707243	10471300	City of Guelph	21 Municipal Wells	D	12/14/79	560,164	4,833,223	31.7	8.8	368.7	363	354	340	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6707341	10471393	City of Guelph	21 Municipal Wells	D	10/24/80	559,164	4,831,723	34.7	10.4	365.8	363	347	339	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6707395	10471446	City of Guelph	21 Municipal Wells	D	7/01/80	561,114	4,831,523	38.4	4.3	373.9	351	345	337	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6707423	10471472	City of Guelph	21 Municipal Wells	D	11/28/80	564,414	4,834,473	61.0	14.3	392.9	378	360	347	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6707438	10471486	City of Guelph	21 Municipal Wells	D	4/23/81	563,314	4,833,923	39.9	7.6	376.2	373	354	344	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6707448	10471496	City of Guelph	21 Municipal Wells	D	4/16/81	554,369	4,828,560	65.5	0.6	368.6	356	352			

Appendix A
MECP Water Well Records Interpreted as Potential Multiaquifer Wells

Well ID	Borehole ID	Water Supply	Supply Well (s)	WHPA	Date Completed	Easting	Northing	Well Depth (m)	Static Water Level (m)	Ground Elevation (mAMSL)	Top of Rock (mAMSL)	Bottom of Guelph Formation (mAMSL)	Bottom of Aquifer (mAMSL)	UTM Reliability	Location Method
6708245	10472155	City of Guelph	21 Municipal Wells	D	7/15/85	560,495	4,833,863	49.1		374.3	357	350	342	margin of error : 100 m - 300 m	from gps
6708246	10472156	City of Guelph	21 Municipal Wells	D	7/11/85	564,792	4,832,184	47.2	5.2	376.2	360	357	341	margin of error : 10 - 30 m	
6708257	10472167	City of Guelph	21 Municipal Wells	D	7/05/85	554,652	4,828,811	103.6	2.4	367.5	357	356	314	margin of error : 100 m - 300 m	from gps
6708449	10472354	City of Guelph	21 Municipal Wells	D	5/01/86	552,913	4,830,004	56.4	1.5	371.4	356	341	318	margin of error : 10 - 30 m	from gps
6708499	10472395	City of Guelph	21 Municipal Wells	D	6/17/86	556,775	4,833,977	47.2	5.2	376.2	358	349	346	margin of error : 10 - 30 m	from gps
6708500	10472396	City of Guelph	21 Municipal Wells	D	8/08/86	557,413	4,831,671	61.0	4.6	381.7	373	357	337	margin of error : 10 - 30 m	from gps
6708603	10472495	City of Guelph	21 Municipal Wells	D	8/19/86	564,630	4,834,031	41.8	3.7	381.6	381	360	347	margin of error : 100 m - 300 m	from gps
6708668	10472558	City of Guelph	21 Municipal Wells	D	3/08/87	557,211	4,815,602	62.5	5.5	327.2	312	307	268	margin of error : 10 - 30 m	from gps
6708755	10472645	City of Guelph	21 Municipal Wells	D	4/24/87	553,284	4,827,397	77.4	5.8	359.3	342	339	303	margin of error : 10 - 30 m	from gps
6708796	10472686	City of Guelph	21 Municipal Wells	D	3/24/87	559,085	4,815,171	32.0	9.1	297.8	284	297	270	UTM very unreliable	Lot centroid
6709072	10472945	City of Guelph	21 Municipal Wells	D	11/02/87	563,585	4,834,800	42.7	4.6	376.1	371	357	346	margin of error : 100 m - 300 m	from gps
6709122	10472993	City of Guelph	21 Municipal Wells	D	12/17/87	556,810	4,834,075	61.0	6.1	375.5	357	349	346	margin of error : 10 - 30 m	from gps
6709178	10473044	City of Guelph	21 Municipal Wells	D	8/08/87	559,261	4,831,843	37.2		367.1	358	347	340	margin of error : 100 m - 300 m	from gps
6709252	10473109	City of Guelph	21 Municipal Wells	D	5/05/88	555,830	4,827,578	59.4	10.1	360.6	350	349	309	margin of error : 10 - 30 m	from gps
6709279	10473138	City of Guelph	21 Municipal Wells	D	5/19/88	557,614	4,834,263	91.4	7.3	387.2	364	351	346	margin of error : 100 m - 300 m	from gps
6709299	10473156	City of Guelph	21 Municipal Wells	D	7/18/88	560,650	4,832,062	40.5		374.0	356	347	339	margin of error : 100 m - 300 m	from gps
6709335	10473190	City of Guelph	21 Municipal Wells	D	5/26/88	560,163	4,832,638	41.1	4.6	367.4	352	349	340	margin of error : 100 m - 300 m	from gps
6709399	10473252	City of Guelph	21 Municipal Wells	D	9/16/88	565,256	4,831,853	62.8	13.7	369.3	358	355	341	margin of error : 100 m - 300 m	from gps
6709453	10473303	City of Guelph	21 Municipal Wells	D	11/29/88	560,644	4,832,455	50.6	10.7	375.1	348	343	340	margin of error : 100 m - 300 m	from gps
6709627	10473475	City of Guelph	21 Municipal Wells	D	7/19/88	554,722	4,831,880	48.2	13.1	378.6	362	339	334	margin of error : 100 m - 300 m	from gps
6709637	10473485	City of Guelph	21 Municipal Wells	D	1/27/89	560,403	4,832,454	35.1	5.8	370.9	354	347	340	margin of error : 100 m - 300 m	from gps
6709673	10473521	City of Guelph	21 Municipal Wells	D	9/21/88	564,280	4,833,495	42.1	15.2	380.2	375	358	344	UTM very unreliable	Lot centroid
6709699	10473547	City of Guelph	21 Municipal Wells	D	10/06/88	559,091	4,833,785	45.7	10.4	372.8	362	352	344	margin of error : 100 m - 300 m	from gps
6709779	10473627	City of Guelph	21 Municipal Wells	D	5/05/89	565,184	4,832,659	43.6	17.1	383.1	360	359	344	margin of error : 100 m - 300 m	from gps
6709878	10473726	City of Guelph	21 Municipal Wells	D	7/12/89	563,833	4,830,999	37.8	6.4	366.7	350	352	334	margin of error : 100 m - 300 m	from gps
6709926	10473774	City of Guelph	21 Municipal Wells	D	7/10/89	553,861	4,833,981	60.0	7.6	391.8	379	348	339	margin of error : 10 - 30 m	from gps
6710059	10473906	City of Guelph	21 Municipal Wells	D	10/12/89	563,347	4,835,397	85.6	40.5	397.4	343	358	347	margin of error : 100 m - 300 m	from gps
6710173	10474020	City of Guelph	21 Municipal Wells	D	12/12/89	561,043	4,835,793	49.1	10.7	389.2	371	354	345	margin of error : 100 m - 300 m	from gps
6710174	10474021	City of Guelph	21 Municipal Wells	D	12/11/89	559,052	4,832,899	36.9	6.7	367.3	361	349	340	margin of error : 100 m - 300 m	from gps
6710310	10474155	City of Guelph	21 Municipal Wells	D	5/15/90	560,186	4,832,513	30.8	6.1	367.3	354	348	340	margin of error : 100 m - 300 m	from gps
6710482	10474327	City of Guelph	21 Municipal Wells	D	10/15/90	559,274	4,830,608	48.8	15.8	371.4	366	345	336	margin of error : 10 - 30 m	from gps
6710501	10474346	City of Guelph	21 Municipal Wells	D	11/14/90	562,943	4,830,148	38.7	7.0	364.2	340	344	330	margin of error : 100 m - 300 m	from gps
6710563	10474408	City of Guelph	21 Municipal Wells	D	4/25/90	559,297	4,834,025	50.3	7.0	374.6	363	353	344	margin of error : 100 m - 300 m	from gps
6710627	10474471	City of Guelph	21 Municipal Wells	D	3/08/91	553,962	4,828,278	61.0	4.0	364.0	356	349	310	margin of error : 10 - 30 m	from gps
6710628	10474472	City of Guelph	21 Municipal Wells	D	3/22/91	553,991	4,828,261	61.0	3.0	363.6	356	349	310	margin of error : 10 - 30 m	from gps
6710724	10474566	City of Guelph	21 Municipal Wells	D	7/11/91	554,127	4,824,974	65.5	14.3	354.1	337	330	290	margin of error : 10 - 30 m	from gps
6710816	10474657	City of Guelph	21 Municipal Wells	D	7/03/91	554,695	4,827,583	65.5	5.2	356.4	346	347	307	margin of error : 10 - 30 m	from gps
6710929	10474770	City of Guelph	21 Municipal Wells	D	5/26/92	565,297	4,833,706	36.9	2.7	375.4	370	362	348	margin of error : 100 m - 300 m	from gps
6710996	10474837	City of Guelph	21 Municipal Wells	D	9/24/92	552,991	4,823,341	79.2	16.2	346.2	320	320	292	margin of error : 10 - 30 m	from gps
6711013	10474854	City of Guelph	21 Municipal Wells	D	9/18/92	553,530	4,818,636	76.2	9.1	341.8	321	309	283	margin of error : 10 - 30 m	from gps
6711130	10474966	City of Guelph	21 Municipal Wells	D	7/24/92	555,316	4,822,991	57.3	7.3	343.1	319	318	294	margin of error : 10 - 30 m	from gps
6711134	10474970	City of Guelph	21 Municipal Wells	D	5/25/92	558,137	4,815,151	29.9	2.1	300.7	287	300	272	margin of error : 10 - 30 m	from gps
6711138	10474974	City of Guelph	21 Municipal Wells	D	3/24/93	564,299	4,834,470	62.5	15.2	390.5	374	359	347	margin of error : 100 m - 300 m	from gps
6711158	10474994	City of Guelph	21 Municipal Wells	D	3/30/93	561,779	4,831,212	73.2	0.9	357.5	352	339	335	margin of error : 100 m - 300 m	from gps
6711267	10475101	City of Guelph	21 Municipal Wells	D	8/09/93	559,455	4,835,293	42.7	10.7	380.3	373	353	346	margin of error : 100 m - 300 m	from gps
6711312	10475146	City of Guelph	21 Municipal Wells	D	4/23/93	552,907	4,829,320	55.8	8.2	369.4	349	339	314	margin of error : 10 - 30 m	from gps
6711335	10475169	City of Guelph	21 Municipal Wells	D	9/07/93	564,219	4,834,425	54.6	10.7	387.6	375	358	347	margin of error : 100 m - 300 m	from gps
6711367	10475201	City of Guelph	21 Municipal Wells	D	11/02/93	568,153	4,815,055	36.0	11.9	302.8	292	299	271	margin of error : 10 - 30 m	from gps
6711412	10475246	City of Guelph	21 Municipal Wells	D	4/11/94	564,477	4,834,152	51.2	10.7	385.1	380	363	347	margin of error : 100 m - 300 m	from gps
6711432	10475266	City of Guelph	21 Municipal Wells	D	4/22/94	561,905	4,835,068	70.1	8.5	380.8	367	354	344	margin of error : 100 m - 300 m	from gps
6711470	10475303	City of Guelph	21 Municipal Wells	D	6/30/94	553,937	4,825,261	73.2	15.2	355.1	336	332	292	margin of error : 10 - 30 m	from gps
6711475	10475308	City of Guelph	21 Municipal Wells	D	2/16/94	564,307	4,832,431	49.7	26.2	367.6	362	358	341	margin of error : 100 m - 300 m	from gps
6711539	10475372	City of Guelph	21 Municipal Wells	D	10/03/94	558,706	4,829,963	54.9	19.8	382.7	369	342	331	margin of error : 10 - 30 m	from gps
6711633	10475466	City of Guelph	21 Municipal Wells	D	9/12/94	559,103	4,814,684	48.5	13.7	310.3	293	298	267	margin of error : 10 - 30 m	from gps
6711711	10475544	City of Guelph	21 Municipal Wells	D	5/31/95	562,637	4,834,382	36.6	3.7	370.1	364	354	344	margin of error : 100 m - 300 m	from gps
6711743	10475576	City of Guelph	21 Municipal Wells	D	6/06/95	559,460	4,814,612	48.8	16.8	314.8	288	298	266	margin of error : 10 - 30 m	from gps
6712022	10475855	City of Guelph	21 Municipal Wells	D	7/26/96	558,683	4,832,470	79.2	14.0	371.6	348	348	336	margin of error : 100 m - 300 m	from gps
6712096	10475929	City of Guelph	21 Municipal Wells	D	9/23/96	552,634	4,822,281	52.1	5.5	342.1	320	316	294	margin of error : 10 - 30 m	from gps
6712109	10475942	City of Guelph	21 Municipal Wells	D	10/28/96	557,404	4,832,004	42.7	4.6	380.3	368	363	338	margin of error : 10 - 30 m	from gps
6712125	10475958	City of Guelph	21 Municipal Wells	D	10/29/96	558,689	4,832,459	79.2	13.4	371.3	347	348	336	margin of error : 100 m - 300 m	from gps
6712257	10476090	City of Guelph	21 Municipal Wells	D	6/06/97	552,245	4,828,924	54.9	14.3	363.6	342	329	310	margin of error : 10 - 30 m	from gps
6712324	10476157	City of Guelph	21 Municipal Wells	D	8/08/97	561,436	4,831,243	73.2	15.2	370.7	347	338	336	margin of error : 10 - 30 m	from gps
6712332	10476165	City of Guelph	21 Municipal Wells	D	8/15/97	557,960	4,832,827	36.6	4.9	368.2	347	346	338	UTM very unreliable	Lot centroid
6712349	10476182	City of Guelph	21 Municipal Wells	D	9/19/97	558,344	4,815,969	43.0	15.2	321.1	306	304	279	margin of error : 10 - 30 m	from gps
6712383	10476216	City of Guelph	21 Municipal Wells	D	11/04/97	560,185	4,832,620	48.8	4.0	367.4	352	348	340	margin of error : 10 - 30 m	from gps
6712393	10476226	City of Guelph	21 Municipal Wells	D	10/17/97	565,121	4,834,567	61.0	13.7	384.2	381	362	350	UTM very unreliable	Lot centroid
6712395	10476228	City of Guelph	21 Municipal Wells	D	11/25/97	552,185	4,828,689	73.2	2.4	356.2	339	328	308	margin of error : 10 - 30 m	from gps
6712398	10476231	City of Guelph	21 Municipal Wells	D	11/26/97	552,248	4,828,822	54.9	11.6	361.2	339	329	309	margin of error : 10 - 30 m	from gps
6712408	10476241	City of Guelph	21 Municipal Wells	D	12/16/97	562,960	4,834,751	42.7	0.3	368.5	362	356	345	UTM very unreliable	Lot centroid
6712415	10476248	City of Guelph	21 Municipal Wells	D	7/07/97	559,464	4,834,285	35.1	1.5	375.7	366	352	344	UTM very unreliable	Lot centroid
6712504	10476337	City of Guelph	21 Municipal Wells	D	4/15/98	552,268	4,828,845	61.6	9.8	361.8	339	329	309	margin of error : 10 - 30 m	from gps
6712547	10476380	City of Guelph	21 Municipal Wells	D	5/22/98	558,313	4,836,263	49.4	3.7	392.8	380	355	347	margin of error : 10 - 30 m	from gps
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Appendix A
MECP Water Well Records Interpreted as Potential Multiaquifer Wells

Well ID	Borehole ID	Water Supply	Supply Well (s)	WHPA	Date Completed	Easting	Northing	Well Depth (m)	Static Water Level (m)	Ground Elevation (mAMSL)	Top of Rock (mAMSL)	Bottom of Guelph Formation (mAMSL)	Bottom of Aquifer (mAMSL)	UTM Reliability	Location Method
6712671	10476504	City of Guelph	21 Municipal Wells	D	9/08/98	565,441	4,833,161	30.5	2.4	376.6	373	360	347	margin of error : 10 - 30 m	
6713034	10476867	City of Guelph	21 Municipal Wells	D	7/20/99	556,190	4,828,234	49.7	21.9	362.4	356	352	314	UTM very unreliable	Lot centroid
6713037	10476870	City of Guelph	21 Municipal Wells	D	8/17/99	555,412	4,827,746	62.5	19.5	364.0	359	352	309	UTM very unreliable	Lot centroid
6713040	10476873	City of Guelph	21 Municipal Wells	D	8/26/99	552,829	4,829,734	64.0	18.3	371.2	353	339	316	margin of error : 10 - 30 m	
6713072	10476905	City of Guelph	21 Municipal Wells	D	8/03/99	560,390	4,831,531	38.4	14.9	364.6	348	346	338	UTM very unreliable	Lot centroid
6713157	10476990	City of Guelph	21 Municipal Wells	D	10/28/99	554,045	4,824,317	80.2	58.5	340.1	319	326	289	UTM very unreliable	Lot centroid
6713159	10476992	City of Guelph	21 Municipal Wells	D	11/05/99	553,051	4,827,011	68.0	4.0	356.2	339	336	300	margin of error : 10 - 30 m	
6713188	10477021	City of Guelph	21 Municipal Wells	D	8/27/99	561,205	4,835,605	73.8	19.2	389.7	367	354	345	margin of error : 10 - 30 m	
6713195	10477028	City of Guelph	21 Municipal Wells	D	10/29/99	552,169	4,828,839	68.0	9.1	361.5	341	328	309	margin of error : 10 - 30 m	
6713300	10477133	City of Guelph	21 Municipal Wells	D	4/13/00	559,023	4,834,702	43.3	1.8	388.2	379	352	345	UTM very unreliable	Lot centroid
6713314	10477147	City of Guelph	21 Municipal Wells	D	1/18/00	560,699	4,834,020	49.4	9.1	380.1	356	349	342	margin of error : 10 - 30 m	
6713321	10477154	City of Guelph	21 Municipal Wells	D	5/11/00	562,724	4,832,266	30.5	7.6	365.1	362	352	338	margin of error : 10 - 30 m	
6713370	10477203	City of Guelph	21 Municipal Wells	D	6/28/00	568,706	4,817,916	68.6	25.9	347.4	314	320	292	UTM very unreliable	Lot centroid
6713418	10477251	City of Guelph	21 Municipal Wells	D	4/28/99	568,706	4,817,916	55.5	5.2	347.4	314	320	292	UTM very unreliable	Lot centroid
6713441	10477274	City of Guelph	21 Municipal Wells	D	8/25/00	557,775	4,833,591	42.7	13.7	378.9	362	349	344	margin of error : 10 - 30 m	
6713470	10477303	City of Guelph	21 Municipal Wells	D	8/10/00	557,848	4,833,482	45.7	7.6	376.7	362	348	344	margin of error : 10 - 30 m	
6713544	10477377	City of Guelph	21 Municipal Wells	D	10/11/00	557,685	4,835,985	91.4	10.1	392.2	375	354	348	UTM very unreliable	Lot centroid
6713578	10477411	City of Guelph	21 Municipal Wells	D	11/27/00	557,685	4,835,985	111.6		392.2	375	354	348	UTM very unreliable	Lot centroid
6713596	10477429	City of Guelph	21 Municipal Wells	D	11/23/00	557,232	4,836,402	68.6	3.0	398.2	386	354	348	UTM very unreliable	Lot centroid
6713667	10477500	City of Guelph	21 Municipal Wells	D	3/29/01	561,478	4,831,597	47.2	17.7	376.1	339	341	337	margin of error : 10 - 30 m	
6713676	10477509	City of Guelph	21 Municipal Wells	D	5/10/01	565,497	4,833,447	42.7	3.7	374.3	371	361	348	margin of error : 10 - 30 m	
6713791	10522923	City of Guelph	21 Municipal Wells	D	8/11/01	564,421	4,830,250	70.1	16.2	368.1	346	346	331	margin of error : 10 - 30 m	
6713802	10522934	City of Guelph	21 Municipal Wells	D	8/08/01	564,149	4,830,859	32.0	12.8	358.5	340	352	335	margin of error : 10 - 30 m	
6713972	10528507	City of Guelph	21 Municipal Wells	D	11/02/01	562,694	4,830,078	48.8	9.8	367.3	348	344	330	margin of error : 10 - 30 m	
6714038	10528573	City of Guelph	21 Municipal Wells	D	3/01/02	562,431	4,834,249	42.7	3.7	367.9	356	352	343	margin of error : 10 - 30 m	
6714041	10528576	City of Guelph	21 Municipal Wells	D	3/15/02	553,795	4,827,334	67.1	2.4	356.4	344	342	304	margin of error : 10 - 30 m	
6714042	10528577	City of Guelph	21 Municipal Wells	D	2/21/02	558,293	4,832,668	54.9	12.5	372.1	352	348	330	margin of error : 10 - 30 m	
6714045	10528580	City of Guelph	21 Municipal Wells	D	12/19/01	565,064	4,832,739	45.1	7.0	384.1	365	359	344	margin of error : 10 - 30 m	
6714102	10528637	City of Guelph	21 Municipal Wells	D	6/06/02	560,319	4,813,685	67.1	15.5	328.9	292	298	265	UTM very unreliable	Lot centroid
6714337	10536544	City of Guelph	21 Municipal Wells	D	11/29/02	552,601	4,826,406	82.3	19.8	357.8	334	331	297	margin of error : 100 m - 300 m	from gis
6714347	10536554	City of Guelph	21 Municipal Wells	D	12/10/02	557,949	4,833,345	42.7	12.2	374.3	358	348	342	margin of error : 100 m - 300 m	from gis
6714365	10542210	City of Guelph	21 Municipal Wells	D	12/09/02	563,013	4,830,891	56.4	10.7	368.5	350	347	334	Approximate location: margin of error : 1 km - 3 km	Lot centroid
6714685	11100601	City of Guelph	21 Municipal Wells	D	10/30/03	561,625	4,836,030	42.4	4.9	387.4	368	355	346	UTM very unreliable	Lot centroid
6714718	11100633	City of Guelph	21 Municipal Wells	D	10/23/03	558,175	4,833,660	73.2	4.0	384.1	367	349	344	UTM very unreliable	Lot centroid
6714897	11108248	City of Guelph	21 Municipal Wells	D	4/27/04	557,791	4,815,714	48.5	11.3	319.9	305	306	275	margin of error : 100 m - 300 m	on Water Well Record
6714932	11179569	City of Guelph	21 Municipal Wells	D	5/07/04	557,790	4,833,463	43.0	8.2	376.8	361	348	343	margin of error : 10 - 30 m	on Water Well Record
6715071	11179708	City of Guelph	21 Municipal Wells	D	9/01/04	558,582	4,829,924	67.1	11.8	380.0	368	342	331	margin of error : 10 - 30 m	on Water Well Record
6715184	11179820	City of Guelph	21 Municipal Wells	D	9/17/04	553,216	4,823,102	67.7		343.7	320	319	294	margin of error : 10 - 30 m	on Water Well Record
6715338	11327124	City of Guelph	21 Municipal Wells	D	4/06/05	563,000	4,829,466	48.8	1.8	363.3	347	340	327	margin of error : 30 m - 100 m	on Water Well Record
6715354	11327140	City of Guelph	21 Municipal Wells	D	5/16/05	557,175	4,833,925	67.0	9.4	375.1	366	350	346	margin of error : 30 m - 100 m	on Water Well Record
6715379	11327165	City of Guelph	21 Municipal Wells	D	5/05/09	565,190	4,832,673	43.6	17.1	383.1	360	359	344	margin of error : 30 m - 100 m	on Water Well Record
6715422	11327208	City of Guelph	21 Municipal Wells	D	8/22/05	559,681	4,833,515	31.1		364.3	356	354	341	margin of error : 30 m - 100 m	on Water Well Record
6715424	11327210	City of Guelph	21 Municipal Wells	D	7/21/05	559,678	4,833,508	61.9	17.0	364.2	356	354	341	margin of error : 30 m - 100 m	on Water Well Record
6715445	11327231	City of Guelph	21 Municipal Wells	D	7/08/05	558,505	4,815,510	90.0		306.1	296	300	277	margin of error : 30 m - 100 m	on Water Well Record
6715506	11327292	City of Guelph	21 Municipal Wells	D	9/29/05	553,582	4,823,027	79.2	8.8	341.7	321	319	295	margin of error : 30 m - 100 m	on Water Well Record
6715653	11558174	City of Guelph	21 Municipal Wells	D	1/11/06	564,444	4,830,600	36.6	14.3	368.5	353	348	334	margin of error : 10 - 30 m	on Water Well Record
6715850	11558371	City of Guelph	21 Municipal Wells	D	6/28/06	563,164	4,832,407	42.7	15.8	375.1	367	354	339	margin of error : 10 - 30 m	on Water Well Record
6715852	11558373	City of Guelph	21 Municipal Wells	D	8/13/06	562,082	4,830,623	48.8	15.5	372.4	353	338	333	margin of error : 10 - 30 m	on Water Well Record
6715995	11695781	City of Guelph	21 Municipal Wells	D	10/27/06	559,757	4,836,639	74.0	9.1	396.4	382	356	348	margin of error : 10 - 30 m	on Water Well Record
7040806	11763363	City of Guelph	21 Municipal Wells	D	1/09/07	552,755	4,827,724	67.7	44.2	370.1	341	335	304	margin of error : 10 - 30 m	on Water Well Record
7045911	23045911	City of Guelph	21 Municipal Wells	D	5/15/07	561,889	4,835,065	81.3		380.5	367	353	344	margin of error : 10 - 30 m	on Water Well Record
7048286	23048286	City of Guelph	21 Municipal Wells	D	7/30/07	565,195	4,832,926	48.8	5.2	382.3	368	360	345	margin of error : 10 - 30 m	on Water Well Record
7048287	23048287	City of Guelph	21 Municipal Wells	D	7/27/07	565,262	4,832,859	42.7	4.6	382.0	367	360	345	margin of error : 10 - 30 m	on Water Well Record
7051831	23051831	City of Guelph	21 Municipal Wells	D	10/15/07	559,705	4,835,127	27.4	2.7	370.7	371	353	346	margin of error : 10 - 30 m	on Water Well Record
7053283	23053283	City of Guelph	21 Municipal Wells	D	11/20/07	553,624	4,830,660	67.1	11.3	379.9	363	358	324	margin of error : 10 - 30 m	on Water Well Record
7053292	23053292	City of Guelph	21 Municipal Wells	D	10/30/07	553,570	4,829,119	54.9	7.6	365.3	354	348	314	margin of error : 10 - 30 m	on Water Well Record
7102462	1001535364	City of Guelph	21 Municipal Wells	D	10/24/07	559,109	4,830,243	33.6	3.2	366.0	360	344	334	margin of error : 10 - 30 m	on Water Well Record
7105892	1001605465	City of Guelph	21 Municipal Wells	D	5/14/08	557,974	4,831,894	53.9	1.8	375.9	365	362	339	margin of error : 10 - 30 m	on Water Well Record
7113272	1001837858	City of Guelph	21 Municipal Wells	D	6/06/08	559,841	4,835,171	22.9	2.9	368.5	365	353	346	margin of error : 10 - 30 m	on Water Well Record
7121875	1002416024	City of Guelph	21 Municipal Wells	D	8/15/08	563,024	4,835,566	97.2	24.4	404.4	361	358	347	margin of error : 30 m - 100 m	on Water Well Record
7128692	1002705585	City of Guelph	21 Municipal Wells	D	9/10/07	565,950	4,831,291	54.6	12.3	371.2	364	345	329	margin of error : 10 - 30 m	on Water Well Record
7141049	1002946548	City of Guelph	21 Municipal Wells	D	9/01/09	559,364	4,835,572	89.9		387.2	379	354	346	margin of error : 100 m - 300 m	on Water Well Record
7144335	1002970725	City of Guelph	21 Municipal Wells	D	3/19/10	554,036	4,828,173	74.7	2.7	360.9	353	348	309	margin of error : 30 m - 100 m	on Water Well Record
7146842	1003023722	City of Guelph	21 Municipal Wells	D	5/27/10	557,436	4,833,824	44.5	4.3	379.8	366	349	345	margin of error : 30 m - 100 m	on Water Well Record
7148259	1003160523	City of Guelph	21 Municipal Wells	D	6/17/10	569,725	4,817,858	48.8	3.7	341.4	312	317	299	margin of error : 30 m - 100 m	on Water Well Record
7149913	1003290251	City of Guelph	21 Municipal Wells	D	7/30/10	558,359	4,832,747	89.9	10.9	371.7	351	347	333	margin of error : 100 m - 300 m	on Water Well Record
7150837	100331830	City of Guelph	21 Municipal Wells	D	7/26/10	562,324	4,834,337	37.8	0.5	370.3	351	352	343	margin of error : 30 m - 100 m	on Water Well Record
7153179	1003352394	City of Guelph	21 Municipal Wells	D	9/14/10	559,389	4,814,680	75.0	28.7	312.4	287	298	266	margin of error : 10 - 30 m	on Water Well Record
7161595	1003494896	City of Guelph	21 Municipal Wells	D	6/22/10	558,795	4,833,496	47.9	10.7	372.1	360	351	344	margin of error : 10 - 30 m	on Water Well Record
7164116	1003519358	City of Guelph	21 Municipal Wells	D	5/25/11	559,140	4,814,630	48.8	11.9	311.7	294	298	266	margin of error : 10 - 30 m	on Water Well Record
7166892	1003546843	City of Guelph	21 Municipal Wells	D	7/29/11	554,070	4,833,983	55.5	4.3	390.9	379	350	340	margin of error : 10 - 30 m	on Water Well Record
7171438	1003605129	City of Guelph	21 Municipal Wells	D	10/18/11	563,483	4,829,953	41.8	12.2	364.1	343	343	329	margin of error : 10 - 30 m	on Water Well Record
7172652	1003614384	City of Guelph	21 Municipal Wells	D	11/18/11										

Appendix A
MECP Water Well Records Interpreted as Potential Multiaquifer Wells

Well ID	Borehole ID	Water Supply	Supply Well (s)	WHPA	Date Completed	Easting	Northing	Well Depth (m)	Static Water Level (m)	Ground Elevation (mAMSL)	Top of Rock (mAMSL)	Bottom of Guelph Formation (mAMSL)	Bottom of Aquifer (mAMSL)	UTM Reliability	Location Method
7173141	1003617183	City of Guelph	21 Municipal Wells	D	11/11/11	563.479	4,829,921	36.9	11.5	363.2	342	343	329	margin of error : 30 m - 100 m	on Water Well Record
7176198	1003645381	City of Guelph	21 Municipal Wells	D	1/06/12	563.522	4,830,521	37.8	10.5	367.8	348	348	332	margin of error : 30 m - 100 m	on Water Well Record
7186050	1004141121	City of Guelph	21 Municipal Wells	D	8/03/12	562.232	4,835,293	70.1	0.6	374.9	360	355	345	margin of error : 30 m - 100 m	on Water Well Record
7187158	1004155078	City of Guelph	21 Municipal Wells	D	8/04/12	563.077	4,833,558	33.5	6.0	371.9	369	353	343	margin of error : 30 m - 100 m	on Water Well Record
7190333	1004188784	City of Guelph	21 Municipal Wells	D	7/10/12	554.120	4,828,360	86.6	11.8	366.8	355	350	310	margin of error : 30 m - 100 m	on Water Well Record
7203124	1004342662	City of Guelph	21 Municipal Wells	D	5/08/13	553.027	4,826,759	90.8	5.8	353.9	339	335	299	margin of error : 30 m - 100 m	on Water Well Record
7203165	1004344394	City of Guelph	21 Municipal Wells	D	4/22/13	569.442	4,817,915	54.9	13.7	343.2	314	318	297	margin of error : 30 m - 100 m	on Water Well Record
7206292	1004514150	City of Guelph	21 Municipal Wells	D	7/03/13	564.494	4,832,162	42.7	2.7	369.8	361	358	340	margin of error : 30 m - 100 m	on Water Well Record
7215456	1004698970	City of Guelph	21 Municipal Wells	D	11/26/13	558.531	4,836,361	49.4	7.3	393.0	381	355	347	margin of error : 30 m - 100 m	on Water Well Record
7228267	1005137437	City of Guelph	21 Municipal Wells	D	6/25/14	553.110	4,822,284	61.6	7.2	343.0	315	317	296	margin of error : 30 m - 100 m	on Water Well Record
7228269	1005137453	City of Guelph	21 Municipal Wells	D	6/25/14	555.706	4,826,784	49.4	4.9	350.5	347	342	303	margin of error : 30 m - 100 m	on Water Well Record
7229181	1005158336	City of Guelph	21 Municipal Wells	D	8/18/14	565.086	4,831,804	43.3	11.9	367.2	360	355	340	margin of error : 30 m - 100 m	on Water Well Record
7248477	1005692699	City of Guelph	21 Municipal Wells	D	5/29/15	555.758	4,826,711	50.0	5.8	350.7	348	341	303	margin of error : 30 m - 100 m	on Water Well Record
7249032	1005712036	City of Guelph	21 Municipal Wells	D	8/19/15	569.508	4,817,971	61.0	14.3	344.4	314	318	298	margin of error : 30 m - 100 m	on Water Well Record
7249033	1005712039	City of Guelph	21 Municipal Wells	D	8/12/15	568.701	4,834,221	49.4	5.5	384.3	370	352	345	margin of error : 30 m - 100 m	on Water Well Record
7254211	1005836880	City of Guelph	21 Municipal Wells	D	10/15/15	559.466	4,834,710	42.8	6.7	380.8	374	352	345	margin of error : 30 m - 100 m	on Water Well Record
7254745	1005843916	City of Guelph	21 Municipal Wells	D	12/07/15	558.461	4,815,448	39.9	30.5	334.0	294	300	277	margin of error : 30 m - 100 m	on Water Well Record
7254746	1005843919	City of Guelph	21 Municipal Wells	D	12/07/15	558.039	4,815,569	39.6	30.5	334.0	301	303	276	margin of error : 30 m - 100 m	on Water Well Record
7256076	1005869195	City of Guelph	21 Municipal Wells	D	11/18/15	559.986	4,834,842	27.4	3.0	369.8	368	352	345	margin of error : 30 m - 100 m	on Water Well Record
7257193	1005877580	City of Guelph	21 Municipal Wells	D	1/06/16	554.054	4,818,079	62.5	0.9	330.8	322	314	279	margin of error : 30 m - 100 m	YPD: Assessment : OBM/OrothPhoto
7268870	1006209716	City of Guelph	21 Municipal Wells	D	7/27/16	553.399	4,830,522	96.9	15.2	377.0	359	352	322	margin of error : 30 m - 100 m	on Water Well Record
7272265	1006257364	City of Guelph	21 Municipal Wells	D	8/29/16	557.950	4,829,265	43.0	5.2	366.3	355	346	325	margin of error : 30 m - 100 m	on Water Well Record
7272708	1006262523	City of Guelph	21 Municipal Wells	D	8/24/16	555.762	4,826,689	56.4	8.5	350.8	348	341	303	margin of error : 30 m - 100 m	on Water Well Record
7279884	1006346694	City of Guelph	21 Municipal Wells	D	1/24/17	554.010	4,828,138	82.0	2.5	359.9	353	348	309	margin of error : 30 m - 100 m	on Water Well Record
7285248	1006381705	City of Guelph	21 Municipal Wells	D	3/17/17	563.199	4,833,481	49.4	7.0	372.2	369	353	343	margin of error : 30 m - 100 m	on Water Well Record
7285482	1006383267	City of Guelph	21 Municipal Wells	D	3/27/17	553.491	4,823,212	69.8	33.7	339.7	316	320	293	margin of error : 30 m - 100 m	on Water Well Record
7297452	1006767237	City of Guelph	21 Municipal Wells	D	9/25/17	557.498	4,815,215	180.0	37.0	314.9	310	302	267	margin of error : 30 m - 100 m	on Water Well Record
7297510	1006768339	City of Guelph	21 Municipal Wells	D	9/27/17	553.999	4,834,007	55.8	7.6	391.4	380	349	340	margin of error : 30 m - 100 m	on Water Well Record
7300263	1006840997	City of Guelph	21 Municipal Wells	D	11/21/17	553.220	4,822,642	65.5	10.3	345.5	320	317	296	margin of error : 30 m - 100 m	on Water Well Record
7309091	1007015941	City of Guelph	21 Municipal Wells	D	4/04/18	558.601	4,832,479	68.0	21.2	374.9	352	348	336	margin of error : 30 m - 100 m	on Water Well Record
7309261	1007018199	City of Guelph	21 Municipal Wells	D	3/16/18	557.596	4,816,208	73.5	13.1	329.3	313	313	278	margin of error : 30 m - 100 m	on Water Well Record
7309262	1007018204	City of Guelph	21 Municipal Wells	D	3/16/18	557.638	4,816,246	78.6	15.0	329.5	314	313	278	margin of error : 30 m - 100 m	on Water Well Record
7309263	1007018207	City of Guelph	21 Municipal Wells	D	3/16/18	557.647	4,816,188	55.5	15.0	328.7	312	312	278	margin of error : 30 m - 100 m	on Water Well Record
7312184	1007089267	City of Guelph	21 Municipal Wells	D	4/09/18	552.913	4,826,858	90.8	4.0	355.1	341	335	299	margin of error : 30 m - 100 m	on Water Well Record
7317766	1007271376	City of Guelph	21 Municipal Wells	D	8/10/18	558.071	4,836,896	49.4	7.6	388.1	380	356	348	margin of error : 30 m - 100 m	on Water Well Record
7322876	1007315824	City of Guelph	21 Municipal Wells	D	10/17/18	557.157	4,834,044	73.8	6.4	375.9	365	350	346	margin of error : 30 m - 100 m	on Water Well Record
7326749	1007360157	City of Guelph	21 Municipal Wells	D	12/24/18	560.061	4,836,527	54.9	19.8	401.7	376	356	348	margin of error : 30 m - 100 m	on Water Well Record
7327067	1007358453	City of Guelph	21 Municipal Wells	D	12/05/18	554.181	4,824,850	83.8	14.3	352.6	334	329	290	margin of error : 30 m - 100 m	on Water Well Record
7331293	1007427028	City of Guelph	21 Municipal Wells	D	3/20/19	553.708	4,827,864	54.9	3.4	358.1	347	345	307	margin of error : 30 m - 100 m	on Water Well Record
7344216	1007676002	City of Guelph	21 Municipal Wells	D	9/05/19	560.083	4,835,138	42.7	7.0	377.1	370	353	346	margin of error : 30 m - 100 m	on Water Well Record
7350234	1007820637	City of Guelph	21 Municipal Wells	D	12/15/19	558.126	4,834,631	55.8	4.4	386.6	371	352	346	margin of error : 30 m - 100 m	on Water Well Record
7357958	1008271659	City of Guelph	21 Municipal Wells	D	12/18/19	553.110	4,830,102	60.4	6.1	371.7	355	345	319	margin of error : 30 m - 100 m	on Water Well Record
7370172	1008496316	City of Guelph	21 Municipal Wells	D	00/00/00	552.301	4,825,253	91.4	9.4	353.1	338	325	292	margin of error : 30 m - 100 m	on Water Well Record
7413454	1008976966	City of Guelph	21 Municipal Wells	D	3/10/22	560.657	4,832,473	35.7	9.4	375.3	349	343	340	margin of error : 30 m - 100 m	on Water Well Record
6708419	10472325	Guelph/Eramosa	Cross Creek & Huntington	A	4/23/86	558.390	4,826,520	71.9	0.3	338.8	337	330	310	margin of error : 10 - 30 m	from gps
6708936	10472816	Guelph/Eramosa	Cross Creek & Huntington	A	9/25/87	558.041	4,825,847	48.8	2.4	354.3	351	331	306	margin of error : 10 - 30 m	from gps
6701215	10465360	Guelph/Eramosa	Cross Creek & Huntington	B	3/28/82	558.181	4,826,929	60.4	13.7	356.4	328	333	312	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6703089	10467231	Guelph/Eramosa	Cross Creek & Huntington	B	2/07/88	557.014	4,830,643	73.2	10.7	379.8	371	351	331	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6708061	10472003	Guelph/Eramosa	Cross Creek & Huntington	B	11/21/83	557.154	4,827,503	57.9	18.9	357.3	347	340	312	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6713033	10476866	Guelph/Eramosa	Cross Creek & Huntington	B	8/03/99	557.729	4,826,867	69.5	21.9	359.8	330	335	310	UTM very unreliable	Lot centroid
6714506	10548057	Guelph/Eramosa	Cross Creek & Huntington	B	6/13/03	555.991	4,830,920	87.2	32.3	384.4	365	363	330	UTM very unreliable	Lot centroid
6715193	11179829	Guelph/Eramosa	Cross Creek & Huntington	B	10/19/04	557.626	4,828,309	73.2	6.7	358.2	351	343	319	margin of error : 10 - 30 m	on Water Well Record
7134462	1002834465	Guelph/Eramosa	Cross Creek & Huntington	B	10/21/09	557.218	4,828,768	42.7	6.7	359.1	357	351	320	margin of error : 30 m - 100 m	YPD: Assessment : OBM/OrothPhoto
6701818	10465963	Guelph/Eramosa	Cross Creek & Huntington	C	6/01/67	556.438	4,833,637	45.7	8.5	385.5	353	347	345	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6704925	10469029	Guelph/Eramosa	Cross Creek & Huntington	C	9/13/73	556.538	4,831,936	74.7	7.6	379.3	370	362	337	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6704978	10469081	Guelph/Eramosa	Cross Creek & Huntington	C	1/27/74	556.150	4,833,412	50.6	6.4	383.2	349	345	343	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6705136	10469234	Guelph/Eramosa	Cross Creek & Huntington	C	6/11/74	554.888	4,832,734	50.3	7.6	380.9	354	347	340	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6705346	10469440	Guelph/Eramosa	Cross Creek & Huntington	C	11/08/74	554.638	4,834,986	79.2	19.8	396.7	375	349	343	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6705457	10469550	Guelph/Eramosa	Cross Creek & Huntington	C	11/12/74	556.417	4,833,364	50.3	6.4	381.8	350	346	344	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6705791	10469880	Guelph/Eramosa	Cross Creek & Huntington	C	9/03/75	555.222	4,835,406	76.2	9.1	399.3	384	351	345	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6706015	10470097	Guelph/Eramosa	Cross Creek & Huntington	C	6/12/76	556.514	4,833,723	58.2	9.4	386.3	355	348	345	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6706034	10470115	Guelph/Eramosa	Cross Creek & Huntington	C	8/08/75	556.464	4,833,523	54.9	10.1	383.3	352	347	344	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6706044	10470125	Guelph/Eramosa	Cross Creek & Huntington	C	5/08/75	555.414	4,832,423	64.0	3.0	380.2	377	347	338	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6706553	10470629	Guelph/Eramosa	Cross Creek & Huntington	C	11/03/77	555.964	4,833,023	45.4	3.7	381.5	349	344	342	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6706848	10470722	Guelph/Eramosa	Cross Creek & Huntington	C	8/28/77	555.214	4,832,423	54.9	3.0	378.3	346	343	338	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6707843	10471845	Guelph/Eramosa	Cross Creek & Huntington	C	3/14/83	556.636	4,833,650	79.2	7.6	382.4	354	347	345	margin of error : 10 - 30 m	from gps
6708260	10472170	Guelph/Eramosa	Cross Creek & Huntington	C	8/22/85	556.270	4,833,065	49.7	10.4	382.2	345	345	342	margin of error : 10 - 30 m	from gps
6708302	10472212	Guelph/Eramosa	Cross Creek & Huntington	C	10/30/85	555.856	4,833,004	60.0	3.7	380.9	349	343	3		

Appendix A
MECP Water Well Records Interpreted as Potential Multiaquifer Wells

Well ID	Borehole ID	Water Supply	Supply Well (s)	WHPA	Date Completed	Easting	Northing	Well Depth (m)	Static Water Level (m)	Ground Elevation (mAMSLL)	Top of Rock (mAMSLL)	Bottom of Guelph Formation (mAMSLL)	Bottom of Aquifer (mAMSLL)	UTM Reliability	Location Method
6713251	10477084	Guelph/Eramosa	Cross Creek & Huntington	C	10/14/99	555,694	4,830,610	61.0	10.7	381.3	359	365	328	UTM very unreliable	Lot centroid
6713343	10477176	Guelph/Eramosa	Cross Creek & Huntington	C	5/15/00	555,864	4,832,280	49.7	15.2	375.8	359	354	338	UTM very unreliable	Lot centroid
6714031	10528566	Guelph/Eramosa	Cross Creek & Huntington	C	2/13/02	556,809	4,833,227	43.3	11.6	376.1	350	347	344	UTM very unreliable	Lot centroid
6715240	11327026	Guelph/Eramosa	Cross Creek & Huntington	C	1/07/05	555,510	4,832,589	57.9	9.8	382.8	358	349	339	margin of error : 30 m - 100 m	on Water Well Record
6715692	11558213	Guelph/Eramosa	Cross Creek & Huntington	C	2/03/06	555,819	4,833,041	55.5	11.0	380.9	349	343	342	margin of error : 10 - 30 m	on Water Well Record
7102460	1001535358	Guelph/Eramosa	Cross Creek & Huntington	C	11/01/07	555,187	4,832,908	44.2	9.5	383.8	358	347	341	margin of error : 10 - 30 m	from gps
7161640	1003494986	Guelph/Eramosa	Cross Creek & Huntington	C	8/25/10	555,539	4,834,585	55.5	9.1	397.5	384	349	345	margin of error : 10 - 30 m	on Water Well Record
7407870	1008915237	Guelph/Eramosa	Cross Creek & Huntington	C	12/20/21	555,030	4,832,392	54.6	5.5	375.2	363	341	338	margin of error : 30 m - 100 m	on Water Well Record
6711491	10475324	Guelph/Eramosa	Cross Creek & Huntington	D	6/30/94	555,824	4,838,008	78.3	21.3	420.5	394	355	347	margin of error : 100 m - 300 m	from gps
2515102	10531321	Mount Forest	Mount Forest 3,4,5,6	A	7/04/02	520,732	4,870,428	115.8		416.3	383	333	308	margin of error : 100 m - 300 m	from gps
6703148	10467290	Mount Forest	Mount Forest 3,4,5,6	A	10/21/68	520,714	4,870,473	121.9	11.9	416.0	382	333	308	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6706988	10471054	Mount Forest	Mount Forest 3,4,5,6	A	4/25/79	520,164	4,869,573	121.9	15.5	417.7	378	329	304	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6701750	10465895	Mount Forest	Mount Forest 3,4,5,6	C	12/07/62	521,520	4,870,828	122.2	14.6	420.1	389	338	313	UTM very unreliable	Original Pre1985 UTM Rel Code 9: unknown UTM
6714007	10528542	Mount Forest	Mount Forest 3,4,5,6	C	11/17/00	520,683	4,870,058	165.2		419.3	385	332	308	margin of error : 10 - 30 m	
6703213	10467355	Rockwood	Well 1&2	D	3/19/68	566,914	4,833,703	53.3	5.2	394.4	375	364	356	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6700478	10464624	Rockwood	Well 1&2	D	4/19/66	566,696	4,833,863	51.5	5.8	394.6	375	364	355	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6700491	10464637	Rockwood	Well 1&2	D	10/10/57	566,774	4,834,627	55.2	15.8	399.0	380	363	355	UTM very unreliable	Original Pre1985 UTM Rel Code 9: unknown UTM
6700494	10464640	Rockwood	Well 1&2	D	2/05/64	566,893	4,834,428	61.0	14.6	402.9	384	363	356	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6700496	10464642	Rockwood	Well 1&2	D	1/27/64	565,916	4,836,229	60.4	12.2	399.5	385	366	353	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6700524	10464670	Rockwood	Well 1&2	D	6/07/62	567,225	4,835,321	44.8	2.4	388.2	380	361	356	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6703507	10467644	Rockwood	Well 1&2	D	11/06/69	566,234	4,836,323	61.0	7.6	397.8	393	365	355	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6703918	10468046	Rockwood	Well 1&2	D	5/10/71	566,434	4,834,313	53.6	20.4	401.7	371	364	354	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6704789	10468896	Rockwood	Well 1&2	D	8/07/73	567,264	4,835,243	44.8	6.1	386.8	379	360	356	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6704859	10468965	Rockwood	Well 1&2	D	10/26/73	567,314	4,835,183	34.7	5.5	386.0	378	360	356	margin of error : 30 m - 100 m	Original Pre1985 UTM Rel Code 4: margin of error : 30 m - 100 m
6705362	10469456	Rockwood	Well 1&2	D	11/11/74	567,039	4,834,948	43.0	9.1	383.7	372	362	356	margin of error : 100 m - 300 m	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
6712813	10476646	Rockwood	Well 1&2	D	12/23/98	566,424	4,835,181	43.3	15.2	394.7	383	364	355	UTM very unreliable	Lot centroid
6713489	10477322	Rockwood	Well 1&2	D	9/27/00	567,241	4,835,332	55.5	6.7	388.4	379	360	356	margin of error : 10 - 30 m	
7125763	1002531834	Rockwood	Well 1&2	D	6/17/09	565,901	4,836,253	61.0	10.7	399.0	385	366	353	margin of error : 10 - 30 m	on Water Well Record